











THE
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OF THE
MEDICAL SCIENCES.

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THE
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TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. WADDELL, STEEL, HEUSTIS, PENNOCK, HORNER and YOUNG.

We have not yet seen Dr. HAYWARD's Physiology. The copy sent by the author has not reached us.

The following works have been received:—

Researches on the Pathology and Treatment of some of the most important Diseases of Women. By ROBERT LEE, M. D., F. R. S., Physician Accoucheur to the British Lying-in Hospital, &c. &c. (From the author.*)

Leçons de Clinique Médicale, faites a l'Hôtel-Dieu de Paris. Par Le Professeur A. F. CHOMEL, recueillies et publiées sous ses yeux. Par J. L. GENEST, D. M. P. Ancien chef de Clinique Médicale de l'Hôtel-Dieu de Paris, &c. (Fièvre Typhoïde.) Paris, Germer Baillière, 1834. (From the publishers.)

An Inquiry into the Principles and Practice of Medicine, founded on original Physiological Investigations. By G. CALVERT HOLLAND, M. D. Physician to the Sheffield General Infirmary. Vol. I. London, 1834. (From the author.)

General Observations respecting Cholera Morbus. By J. N. CASANOVA, C. M. D. &c. &c. Philadelphia, 1834. (From the author.)

An Introduction to the Study of Human Anatomy. By JAMES PAXTON, M. R. C. S. &c. Vol. II. First American Edition, with Additions. By WINSLOW LEWIS, Jr. M. D. Demonstrator of Anatomy to the Medical Department of Harvard University. Boston, 1834. Allen & Ticknor. (From the publishers.)

An Inquiry into the Claims of Dr. WILLIAM HARVEY to the Discovery of the Circulation of the Blood; with a more Equitable Retrospect of that Event. To which is Added an Introductory Lecture, Delivered on the 3d of November, 1829, in Vindication of Hippocrates from Sundry Charges of Ignorance preferred against him by the late Professor Rush. By JOHN REDMAN COXE, M. D. Professor of Materia Medica and Pharmacy in the University of Pennsylvania, &c. &c. Philadelphia, 1834. (From the author.)

A Compendium of Operative Surgery intended for the Use of Students, and Containing Descriptions of all Surgical Operations. Illustrated with Engravings. By THOMAS L. OGIER, M. D. Lecturer on Anatomy and Operative Surgery, and THOMAS M. LOGAN, M. D. Lecturer on Materia Medica and Therapeutics. No. 1. Charleston, 1834. (From the authors.)

Documents Relative to the Massachusetts State Prison. (From J. Porter, Esq.)

Case of Notencephale, with Engravings. By CHARLES T. HILDRETH, M. D. Boston, 1834. (From the author.)

Promotion of Health in Literary Institutions. New Haven, 1833. (From Henry Bronson, M. D.)

Archives Générales de Médecine, for January, February and March, 1834. (In exchange.)

Annales de la Médecine Physiologique, for February, 1834. (In exchange.)

* This work, sent to us upwards of a year since, only reached us just as this sheet was going to press. We shall notice it in our next.

Revue Médicale Française et étrangère, Journal des Progres de la Medecine Hippocratique, for January, February, March and April, 1834. (In exchange.)
Journal de Chimie Médicale, for March and April, 1834. (In exchange.)

Journal des Connaissances Medico-Chirurgicale, January, February, March, April and May, 1834. (In exchange.)

Journal Hebdomadaire des Progres des Sciences et Institutions Médicales. Vol. I. and Vol. II. No. XIV to XX. (In exchange.)

Journal de Pharmacie et des Sciences Accessoires, for December, 1833, and January, February, March and April, 1834. (In exchange.)

Gazette Médicale de Paris. March, April and May, 1834. (In exchange.)

La Lancette Française, Gazette des Hospitaux, Civils et Militaires. March, April and May, 1834. (In exchange.)

The Edinburgh Medical and Surgical Journal, for July, 1833. (In exchange.)

The Medico-Chirurgical Review, for July, 1833. (In exchange.)

The London Medical and Physical Journal, for June and July, 1833. (In exchange.)

The London Medical and Surgical Journal, for June and July, 1833. (In exchange.)

London Medical Gazette, for July, August and September, 1834. (In exchange.)

Bibliothek for Læger, No. 4, for 1832; Nos. 1, 2, 3, and 4, for 1833, and No. 1, for 1834. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences. Vol. VII. Nos. 2 and 3. (In exchange.)

The Boston Medical and Surgical Journal, Vol. X. No. 25. (In exchange.)

The United States Medical and Surgical Journal, Vol. I. No. 1. (In exchange.)

The Medical Magazine, Vol. III. Nos. 1 to 6, 1834. (In exchange.)

The Western Journal of the Medical and Physical Sciences, for April, May and June, 1834. (In exchange.)

The Western Medical Gazette, for July, August and September, 1834. (In exchange.)

The North American Archives of Medical and Surgical Sciences, for October, 1834. (In exchange.)

For the gratifications of our contributors, we present references to the works, in which their communications are noticed.

Professor MOTT will find his case of Aneurism of the Right Subclavian noticed in the Gazette Médicale de Paris, for February 22d, 1834, *Revue Médicale*, for March, 1834, *Journal de Connais. Med. Chirurg.* for May, 1834; and his Case of Extirpation of Parotid Gland, in the *Bibliothek for Læger*, No. 2, 1833.

Professor GIBSON will find his Case of Tumour of the Neck noticed in *La Lancette Française* for April 13th, 1834.

Professor GEDDINGS's Case of Fungous Hæmatodes of the Thigh, is noticed in the *Journal Universel et Hebdomadaire* for November, 1833.

Professor HORNER's Experiments on the Vascular Connexion of the Mother and Fœtus, are noticed in the *Journ. des Connaiss., Med. Chirurg.* for November, 1833, *Gaz. Méd. de Paris*, for February 22d, 1834, *Archives Générales* for February, 1834; and his Case of Hepatic Abscess is copied in the *London Med. and Surg. Journ.* for August, 1834.

Dr. JACKSON's Remarks on the Use of Cold Water in Scarlatina, are noticed in the *Rev. Méd.* for September, 1833, *London Med. and Surg. Journ.* for July, 1833; and his Observations on the Efficacy of Belladonna in Pertussis, are noticed in the *Western Med. Gaz.* for September, 1834.

Dr. MITCHELL's Paper on Rheumatism, is noticed in the *Gaz. Méd.* for February 22d, 1834, *Rev. Méd.* for January, 1834, and in the *United States Med. and Surg. Journ.* for August 1st, 1834.

Dr. HARRIS's Cases of Neuralgia Treated by Galvanism, are copied into the *Transylvania Journal* for October, 1834.

Dr. ROBINSON's Case of Monstrosity, is noticed in the *Archiv. Gén.* for January, 1834, *Journ. Univ. et Hebdom.* November, 1833, and *London Med. and Surg. Journ.* June, 1833.

Dr. WILLIAMS's Paper on the Medicinal Uses of the *Viola Ovata*, is noticed in the *Philadelphia Journal of Pharm.* for April, 1834; his Remarks on the Use of the *Conium Maculatum* in Affections of the *Mammæ*, are noticed in the *Bibliothek for Læger*, No. 4, 1833, and in *Behrend's Repertor.* for 1833; and his Case of Stricture of Vagina in the *London Med. and Surg. Journ.* for July, 1834.

Dr. BOND's Account of the Post Mortem Examination of a Female who died shortly after Coitus, is noticed in the *Gaz. Méd. de Paris* for April 19th, 1834, *Journ. Hebdom.* May 10th, 1834, *Medical Magazine* for March, 1834, and *La Lancette Française* for April 12th, 1834.

Dr. ROGER's Case of Ligature of Common Carotid for Anastomosing Aneurism, is noticed in the *London Med. Review* for January, 1834; and his Case of Ossification of the Muscular Tissue in the *Gaz. Méd.* for April 19th, 1834.

Dr. WRIGHT's Contributions to Cardiac Pathology, are noticed in the *Trans. Médicales* for November, 1833, and in the *Rev. Méd.* for January, 1834.

Dr. HULSE's Case of Ununited Fracture, is noticed in the *Gaz. Méd. de Paris* for April 19th, 1834, and in the *Dublin Journal*, for September, 1834.

Dr. HEUSTIS's Case of Prolapsus Recti treated by Excision is copied in the *London Medical and Surgical Journal*, June, 1833.

TICKNOR's Anomalous Case is noticed in the *Boston Medical and Surgical Journal* for October 15th, 1834, and the *Lond. Med. and Surg. Journ.* for August, 1834.

TOLEFREE's Observations on the Circular and Flap Operations are noticed in the *Med. Magazine* for March, 1834, and in the *Gaz. Médicale* for April 19th, 1834.

CHANNING's paper on the Iodo-hydrargyrate of Potassium is noticed in the *Phil. Journ. of Pharm.* for April, 1834, and in the *Gaz. Méd. de Paris* for April 19th, 1834.

Dr. GRISCOM's Memoir on the *Apocynum Canabinum* is noticed in the *Archives Gén.* for October, 1833, *Journ. de Chim. Méd.* for February, 1834, and in the *Journ. de Pharm.* for February, 1834.

Dr. FAHNESTOCK's Case of Partial Congestion of the Cerebrum is noticed in the *Rev. Méd.* for September, 1833, and in the *Journ. Univ. et Hebdom.* for November, 1833.

Dr. WARD's Case of *Vagitus Uterinus* is noticed in the *Rev. Méd.* for September, 1833.

Dr. BARRINGTON's paper on Yellow Fever is noticed in the *Gaz. Méd.* for February 22d, 1834.

Dr. HODGE's paper on Puerperal Fever is noticed in the *Gaz. Méd.* for February 22d, 1834.

Dr. ZOLLIKOFFER's paper on the Apocynum Canabinum is noticed in the *Gaz. Méd.* for February 22d, 1834.

Dr. HARDEN's Case of Shoulder and Arm Presentation is noticed in the *Gaz. Médicale* for February 22d, 1834, in the *Rev. Méd.* for January, 1834, and in the *Journ. de Conna'ss. Méd. Chirurg.* for May, 1834.

Dr. ATLEE's paper on Hydrocyanic Acid in Pertussis is noticed in *La Lancette Française* for October 10th, 1833.

Dr. GILLESPIE's Case of Luxation of the Astragalus is noticed in the *Journ. Univ. et Hebdom.* for November, 1833, and his Cases of Neuralgia are copied into the *London Med. Gaz.* for August, 1834.

Dr. TROWBRIDGE's Case of Calcareous Incrustation of Bladder is noticed in the *Journ. Univ. et Hebdom.* for January 25th, 1834.

Dr. LINDSLEY's Observations on Amenorrhœa are noticed in the *Gaz. Médicale* for April 19th, 1834.

Dr. WALLACE's note on a New Membrane of the Eye is noticed in the *Gaz. Méd. de Paris* for April 19th, 1834.

Dr. ZABRISKIE's Case of Œsophagitis is noticed in the *Gaz. Médicale* for April 19th, 1834, and his Case of Amnesia in the *Dublin Journal* for September, 1834.

Dr. CHARLTON's Case of Incongruous Twining, is copied in the *Medical Gazette* for August, 1834.

Dr. YOUNG's paper on *Cimicifuga racemosa* in Chorea, is noticed in the *Bibliothek for Læger*, No. 3, 1834, and his Case showing the Effects of Lightning, and his Case of Poisoning with Laudanum, are copied in the *Medical Gazette* for August, 1834.

Dr. PICTON on the Influence of Light in preventing Pitting in Small-pox, is noticed in the *Bibliothek for Læger*, No. 3, 1834.

Dr. LEBEAU's Case of Premature Puberty, is noticed in *Froriep's Notizen*, No. 3, 1834.

Dr. WORRELL's Case of Adhesion of Placenta to Fundus of Uterus, is noticed in the *Dublin Journal* for September, 1834.

Dr. HARRIS's Cases of Yellow Fever are noticed in the *Transylvania Journal* for October, 1834.

Dr. HUSTON's Case of Hypertrophy of Mammæ is copied into the *Transylvania Journal* for October, 1834.

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "CAREY, LEA & BLANCHARD, Philadelphia, for the Editor of the American Journal of the Medical Sciences."

All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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THE
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ART. I. *Account of Six Cases of Stone in the Bladder, in which the Operation of Lithotripsy* was Successfully performed.* By J. RANDOLPH, M. D. one of the Surgeons to the Philadelphia Alms-house Infirmary.

A DEGREE of surprise will probably be excited in the minds of some who read this paper, at my having so long delayed giving an account of the following cases, but I have been actuated by two motives in withholding their publication; in the first place, I wished that a sufficient length of time should elapse to test fairly and fully the results of the operations, and in the second place, the several cases presented themselves so simultaneously, that I was unwilling

* Baron Heurteloup, who has obtained the most triumphant success in the destruction of calculi in the bladder by means of percussion, effected through the agency of an instrument invented by himself, which he calls "Le Percuteur courbe a Marteau," has adopted, and I think with great propriety, the term lithotripsy in preference to that of lithotrity. He says, "*Lithotripsie* veut dire pulvérisation de la pierre, de λίθος pierre et de τριβω, je pulvérise, τριβω, pulvérisation; il indique conséquemment le but général de l'opération, sans indication d'aucun procédé. Il n'en est pas de même du mot *lithotritie*, qui n'a jamais désigné que le procédé détruire la pierre par des perforations répétées; en effet, il est dérivé de λίθος pierre et de τινάω ou τρωω, je perce. On sent bien que l'on ne peut pas appeler *lithotritie* l'action d'un instrument qui écrase les pierres ou celle qui les brise par la percussion. En un mot, la *lithotripsie* est le nom donné à la méthode prise en général, qui consiste à pulvériser les pierres, et le mot *lithotritie* n'indique que le procédé de perforer successivement les pierres pour les détruire. *Lithotripsie* est le genre, *lithotritie* est l'espèce."

to give an account of one until the whole were completed. Had I, in truth, consulted merely my own feelings, it is probable that I should not even, at this period, have consented to the publication of this brief outline of the cases: to this step I confess I have been principally induced by the advice of my valued friend, the editor of this Journal, who urged that the alleged success of the operations might be called in question unless an authentic report of them were made to the profession. I am well aware, indeed, that it has been stated, both publicly and privately, much to the opprobrium of American surgeons, that the operation of lithotripsy has never been successfully performed in this country; facts, however, are stubborn things, and the following will, I trust, furnish a sufficient refutation to all such rash assertions.

CASE I. The first patient on whom I performed the operation of lithotripsy was Augustien, a French cook, aged fifty years, placed under my care by my friend, Dr. R. LA ROCHE. Augustien had been afflicted with the symptoms of stone for about three years; had suffered at times very severely, and was seldom able to retain his urine for a longer period than from ten to fifteen minutes.

Having properly prepared this patient for the operation, by the introduction of straight sounds into the bladder, not only for the purpose of accustoming the parts to the presence of instruments, but also to ascertain the exact situation of the stone, on the 22d of September, 1832, I distended his bladder with barley water, and introduced into it the cannula containing the three-branched forceps and drill of M. CIVIALE, (called lithotriteur,) in the presence of Drs. HORNER and LA ROCHE, and Messrs. PILE and COOKE.

The instrument passed readily into the bladder, and immediately came in contact with the stone; I now protruded the blades of the forceps, and succeeded in catching the stone without the slightest difficulty; I next put the drill into motion by means of the bow, and perforated the stone in a very short time; its diameter appeared to be about two inches. It was now deemed proper to desist for the present; I accordingly liberated the stone, closed the blades of the forceps, and withdrew the instrument.

The patient did not suffer severe pain from this operation, which occupied fifteen minutes.

Upon withdrawing the instrument, a considerable portion of calcareous matter came away with it; this was quite soft, and was found subsequently to be composed of the phosphate of lime; the same sandy matter also escaped after the operation along with the fluid and urine which he voided.

On the 29th of September I again introduced the instrument in the presence of Drs. PHYSICK, HORNER, and LA ROCHE, and Messrs. PILE and COOKE. Having, as on the former occasion, succeeded in catching the stone without difficulty, I drilled a hole through it, which I soon perceived to communicate with the aperture made at the first operation.

My next object was to turn the stone, which was accomplished with some slight difficulty, and another perforation was made through it. I now removed the instrument from the bladder, but experienced considerable embarrassment in doing this in consequence of the fine, soft sand mixed with the mucus forming a kind of mortar, which insinuated itself between the blades of the forceps and the drill, and adhered to them in such a manner as to prevent the blades from closing as completely as they ought to have done.

Soon after the operation the patient took a warm bath, and voided the fluid contained in his bladder, together with a considerable quantity of calculous matter.

From this period fragments of the stone continued to be voided for several days, and some of these were of considerable size, showing evidently that the stone was very much broken.

On the 13th of October I repeated the operation in the presence of Drs. PHYSICK, HORNER, LA ROCHE, and W. RUSH, and Messrs. PILE and COOKE. On this occasion I used an instrument one size smaller than the one before employed, immediately caught the stone and bored a hole quite through it; I then attempted to change the position of the stone without letting it go from the forceps; this however I could not effect: I now expanded the blades of the forceps and liberated the stone, then placed the patient on his left side and caught the stone and drilled a hole through it which communicated with other apertures and seemed to break it up considerably. I now again liberated the stone and placed the patient on his right side, then caught it and made another perforation through it with the same effect.

It was now deemed proper to desist, the time occupied by this operation being about twenty minutes. Soon after removing the instrument, the patient voided the fluid which had been injected into his bladder, and with it a good deal of calculous matter. In the evening he had some fever, which however passed off in the night by perspiration. The fragments of stone voided after this operation exceeded much in quantity that passed off after the two first operations.

On the 16th he had a slight chill, which was followed by some fever and pain in the back; these symptoms yielded to two bleedings and a cathartic.

The fourth operation was performed on the 31st of October, in the presence of Drs. Horner and Rush, and Messrs. Pile and Cooke. I caught the stone very readily and made several perforations through it. He suffered very little from this operation; the instrument was introduced and withdrawn without causing any irritation; soon after it he took a warm bath and voided a considerable portion of calculous matter.

Being fully satisfied from the quantity of stone collected after these several operations, and from its measurement by the forceps, that the remaining fragment was of small size, I endeavoured very carefully at this last operation to crush the fragment into pieces by means of the forceps; this attempt however did not prove effectual.

I now determined to make trial of the instrument invented by Mr. JACOBSON, of Copenhagen, for the purpose of breaking up a stone in the bladder, and accordingly on the 7th of November I introduced this instrument into the bladder in the presence of Dr. Horner and Mr. Cooke, and succeeded in a few minutes in catching the stone and breaking it into pieces. Upon withdrawing this instrument, which subsequent experience has induced me to consider one of the most valuable and important ever invented for surgical purposes, I had the satisfaction to find that its blades were completely filled with the calculous matter. The fragments continued to be discharged for several days after this operation; one piece of rather large size lodged in the urethra for near thirty-six hours, it did not however occasion sufficient irritation to induce me to make any great effort either to push it back into the bladder, or to break it in the urethra; it was finally discharged, and the patient then expressed himself free from all pain of the stone.

From this period the patient rested well at night, and was able to retain his urine for five or six hours; this fluid also which previously to the operations was exceedingly turbid and mixed with a considerable quantity of mucus, now became perfectly transparent and clear. Having subjected the bladder to a careful examination, and having sounded it repeatedly without detecting any particle of stone remaining, this case was reported cured on the 26th of November.

It is proper I should state that four or five months subsequently to this period, Augustien again called upon me labouring under some of the symptoms of stone; I lost no time in introducing a sound into his bladder, and ascertained that there was a fragment within it; I introduced Jacobson's instrument twice, caught the piece immediately, and crushed it completely.

These operations did not occupy more than a minute, and were

not productive of any irritation; he passed out the fragments in a few days, since when he has enjoyed good health, and attends to his ordinary concerns.

CASE II. Early in November, 1832, I was requested by Dr. Physick to take charge of the case of Mrs. F. D. of Virginia, aged about twenty-seven years, wife of Col. D. Mrs. D. had been afflicted with the ordinary symptoms of stone for fourteen years. Soon after she arrived in this city Dr. Physick sounded her, and ascertained that there was a calculus of large size in the bladder.

In consequence of her protracted and severe sufferings, Mrs. D. was at this period much emaciated and exceedingly nervous. So great, indeed, was the prostration of her system, that upon the day appointed for my first essay, Dr. Physick considered her to be too feeble to bear any attempt to be made to break the stone.

Having by proper restoratives imparted more tone to her system, I commenced the operation on the 16th of November, in the presence of Dr. Physick.

The irritability of the bladder in this instance was so great, that the patient could not bear any fluid to be injected into it, and accordingly, without resorting to this expedient, I introduced the three-branched forceps of M. Civiale, and having expanded its blades, after considerable difficulty, I could only succeed in catching hold of a projecting portion of the stone; I next put the drill into motion, and bored a hole, which only extended partially through the stone. Upon withdrawing the instrument, we ascertained that the stone was very soft, and I was now convinced that it was too large to be embraced by the forceps. Being provided with Jacobson's instrument, I next introduced this into the bladder, and succeeded in breaking off, from the sides of the stone, a considerable portion of calculous matter. This instrument was introduced and withdrawn without producing any pain; soon after the operation, which occupied only a few minutes, Mrs. D. voided large quantities of the stone, and continued to do so for five or six days; the amount collected seemed indeed sufficient of itself to constitute a calculus of tolerable size. From this period she recovered her health and spirits to a very great degree, and there was also a considerable abatement of the painful symptoms of her disorder.

On the 26th of November I again introduced the instrument of Civiale in the presence of Dr. Physick. In a very short time I caught the stone and drilled a hole completely through it; I then expanded the blades of the forceps slightly, loosened the stone, changed its position, and made another perforation through it. I next endeavoured

to break up the stone as much as possible, by pulling forcibly at the blades with the view of compressing them. It being now thought proper to desist for the present, I let the stone go and attempted to take out the instrument; here however I met with the same difficulty I experienced in Augustien's case, on account of the soft stone adhering like mortar to the sides of the drill and forceps, and preventing the blades from closing entirely. This part of the operation caused considerable pain; when the instrument came out it brought with it a large quantity of sandy matter. Soon after the operation, Mrs. D. took a warm bath and passed a good deal of stone; she rested well at night, and the next day felt freer from pain than she had been for a long time. Mrs. D. continued to void calculous matter for five or six days after this operation, during which time her general health also improved considerably.

On the 15th of December I again introduced the lithotripteur, and caught the stone, which proved to be much lessened in size. I made one perforation through it and then let it go, withdrew this instrument and introduced Jacobson's, and broke the calculus up, as I thought, completely. Mrs. D. did not suffer the least pain either during or after this operation; she voided the calculous matter as on the former occasions.

Upon examining the bladder, however, four or five days subsequently to this operation, I ascertained that there was a portion of stone remaining too large to pass through the urethra.

On the 25th of December I introduced Jacobson's instrument, and caught the stone instantly and broke it, and caught it again and broke it; after this Mrs. D. passed out several large fragments which caused a good deal of straining, and on the 5th day a hæmorrhage occurred. The bleeding was stopped by keeping her perfectly still in a recumbent posture, making cool applications to the vulva, and drawing off the urine by means of a catheter, besides which she drank cool alum whey. From this period Mrs. D.'s sufferings were almost entirely relieved; it was found, however, upon examination, that a fragment was still in the bladder; for the purpose of destroying which I was obliged to make use of Jacobson's instrument twice in the month of January, 1833.

It should be stated, however, that the patient was exceedingly delicate and nervous, and that she would not submit to a repetition of the operations until a long interval had elapsed between them, and then for not more than two or three minutes at a time; in this way her cure was very considerably procrastinated.

During the month of February Mrs. D.'s health improved very ra-

pidly, and the symptoms of stone were so completely relieved that she was unwilling to believe she was not perfectly cured; I ascertained, however, that there was still a fragment in the bladder, though of so small a size that it required some time to find it with the sound. The patient would not submit to any operation for the removal of this fragment until the 27th of this month, when I introduced Jacobson's instrument, and caught the fragment, and drew it out almost entire in the blades of the instrument; but a small portion broke off, which was subsequently voided during the night. From this date the symptoms of stone entirely ceased; I examined the bladder very carefully without being able to discover the least particle of stone: Dr. Phisick also made a very minute examination, and declared himself quite satisfied with the cure.

Early in March Mrs. D. returned to Virginia with her family.

About ten months subsequently to this period Mrs. D. again came to this city labouring under pain and difficulty in voiding urine; considerable apprehension was expressed by several of my medical friends lest there should be a return of the disorder. Upon sounding the bladder, however, very carefully, I had the gratification to find that it was quite sound and entirely free from stone; the examination of the bladder did not cause the slightest pain, at the same time the nature of her complaint was rendered very apparent; she was affected with a prolapsus uteri to a great extent.

For the management of this latter affection she was referred to my excellent friend Dr. DEWEES, by whose judicious treatment she was soon so much relieved as to be enabled to return to her home.

CASE III. Early in March, 1833, I was applied to by Mrs. M. H. aged twenty-eight years, who had been afflicted with the symptoms of stone for about three years.

Having carefully sounded this patient, and ascertained that there was a stone in the bladder, of not a very large size, on the 16th of March I introduced the lithotripteur of M. Civiale, and having expanded the blades of the forceps I made the most careful efforts to catch the stone. Notwithstanding however the greatest care possible was used during this essay, which occupied fifteen minutes, I could not succeed in seizing the calculus, and accordingly was obliged to desist.

The patient declared that she did not suffer the slightest inconvenience from these attempts.

Having failed in catching the stone with the three-branched forceps, on the 20th of March I introduced the brise-pierre articulé of Mr. Jacobson, and after a few minutes I caught the stone and broke off

several fragments which were discharged from the bladder in the course of the next two days.

On the 25th of March I again introduced this instrument into the bladder, and caught the stone and broke it into several fragments, some of these were passed out with the urine, and others I took out from the urethra by means of my common pocket forceps.

On the 28th inst. I again caught the stone and broke it, after which fragments were discharged during the days of the 29th and 30th, and on the 31st of March the whole remaining portion came away. From that moment the symptoms of stone entirely ceased, and the patient declared she was perfectly cured. I was quite satisfied of this being the fact, inasmuch as the fragments collected, when put together, formed an almost entire stone of oval shape, its longest diameter being one inch. I now however sounded the bladder very carefully, but could not detect any stone; a few days subsequently Dr. Physick also had the kindness to sound her, and declared his conviction that the calculus was all removed.

It may be remarked that the treatment of this case occupied but two weeks, during which time the patient was not confined to her bed for a single hour, but continued to attend to the affairs of her house as usual.

CASE IV. The Rev. Dr. Joseph Caldwell, of Raleigh, N. C. aged about sixty years, arrived in this city in the latter end of April, 1833, labouring under the symptoms of stone in the bladder.

Dr. C. had been afflicted with these symptoms for six years, and the pain attending the voiding of his urine was so great that he had been in the habit for a long time of drawing it off by means of a catheter.

Having prepared this patient for the operation of lithotripsy in the usual manner, on the 19th of May I introduced the lithotriteur into his bladder, without the least difficulty, in the presence of Drs. PHYSICK and HORNER and Messrs. KENNEDY, COOKE and HENN. In a few moments I succeeded in catching the stone, and drilled a hole through it; I then expanded the forceps and let the stone escape, and caught it again and made another perforation through it.

The instrument was now withdrawn, and with it came away a quantity of sandy matter. The result of this operation proved that the calculus was a soft one, and not very large, its diameter being by measurement rather more than one inch. Dr. C. did not experience any inconvenience from this operation, which occupied twenty minutes; the next day he was about as well as usual.

On the 26th of May I again introduced the lithotriteur into his bladder; on this occasion I caught the stone three several times, and made perforations through it without any difficulty. The patient did

not suffer any irritation or pain from this operation, he continued to be up and about his room as usual, and for several days voided along with his urine fine calculous matter.

On the second of June I repeated the operation; on this occasion I could not succeed in drilling more than two holes through the stone. The instrument did not work as free in the bladder as it had done on the two former occasions. This operation however did not cause the patient any inconvenience, he was not confined at all to his bed, it was not followed by any fever, and he passed his urine more freely and also the sandy matter.

On the sixteenth of June I again performed the operation; on this occasion I made two perforations through the stone, and by pulling the forceps forcibly, I succeeded in partially breaking it. No inconvenience followed this operation, and he passed out a larger quantity of fragments.

On the 23d of June I introduced the *brise-pierre articulé* of Mr. Jacobson into the bladder, soon caught the stone, and broke it into pieces without any difficulty. The patient did not suffer any pain from this operation; on the contrary, in a few days he passed out the fragments, and experienced entire relief from the painful symptoms which he had formerly endured. Having examined the bladder several times very carefully after this operation, and not being able to detect any stone in it, I requested Dr. Physick to make an examination, which he did on the 4th of July, and after sounding the bladder carefully, he expressed his belief that the patient was cured.

On the 16th of July Dr. Caldwell left this city to return home, previous to which he addressed the following letter to Mr. Charles A. Poulson, one of the Editors of the American Daily Advertiser.

DEAR SIR,

In reply to your inquiries respecting my complaint, and the treatment for its removal, I will briefly state, that I had been afflicted with the symptoms of stone in the bladder for about six years. For the last three years these symptoms had occasioned me so much pain and distress, that I determined to visit Philadelphia, in order to seek for medical assistance, and obtain, if possible, relief from his terrible malady.

I arrived in the city in the latter end of April, and immediately called upon Dr. Physick, who having ascertained by sounding, that a stone was actually in my bladder, advised me to put myself under the care of his son-in-law, Dr. J. Randolph, giving me the assurance that Dr. Randolph had succeeded in several instances in effecting a perfect cure of this complaint by removing the stone, by means of the operation called "*lithotritry*," in which case the knife is not at all used. This operation, I am told, is now most successfully and almost universally employed in Paris. I cheerfully acquiesced in this advice of Dr. Physick, a name I must think no less illustrious for benevolence, than for eminence in medical science and practical skill. Dr. Randolph took charge of my case, and

having properly prepared me for the operation, he commenced it on the 19th of May, in the presence of Drs. Physick and Horner, Messrs. Kennedy, Cook, and Henn. The pain which I endured from the operation was not severe, nor did either of the necessary repetitions of it occasion me so much inconvenience as to oblige me to keep my bed for more than a few hours. On the 23d of June Dr. Randolph performed the last operation, which occupied but a few minutes. A few days from this time I found myself free from the pain which I had previously suffered. The Dr. now examined me very carefully, and declared his conviction that I was entirely rid of the stone, and I had the heartfelt gratification of having this declaration confirmed by Dr. Physick, who, after a minute examination on the 4th of July, stated his belief that I was completely cured.

I am yours, very respectfully,

JOS. CALDWELL.

Philadelphia, July 10th, 1833.

It was with sincere regret I heard a few days since, indirectly, that the Rev. Dr. Caldwell was again labouring under some painful symptoms of affection of the bladder; I cannot of course say what the precise nature of his complaint may be; should it however prove to be stone, I feel quite convinced that one or two applications of the *brise-pierre* would be sufficient to destroy it.

CASE V. Mr. F. G. a highly respectable merchant of this city, aged sixty-four years, had experienced for a period of near thirty years, considerable uneasiness in the urinary organs; within the last four years the painful symptoms were aggravated to such an extent, that in June, 1833, he was induced to consult Dr. Physick, who, upon sounding him, ascertained the existence of a stone in the bladder, and had the kindness to place him under my charge.

Upon examination I discovered that his urethra was unusually small; the bladder also was very much contracted and irritable; he seldom was able to void at one time more than a large wine-glassful of urine.

I attempted to inject barley water into his bladder, but could not succeed in introducing more than four ounces of the fluid, and this caused him so much pain that I did not resort to it again.

On the 12th of June I introduced the lithotripter, No. 4, in the presence of Dr. Physick and G. W. Ritter, Messrs. Kennedy, Cooke and Henn. I very soon succeeded in catching the stone, and drilling a hole through it; I then changed its position, and made another perforation through it. I soon perceived that the instrument used upon this occasion was rather larger than it should have been; it did not work readily in the bladder, and it required some force to withdraw it, in consequence of the blades of the forceps enclosing some sand and mucus which prevented their closing entirely. Subsequently to the operation, Mr. G. voided with the urine a good deal of fine, red, sandy matter; the stone was found to be composed of uric acid, and its diameter was about one inch and a half.

Some hours after the operation the patient was attacked with a chill, which was followed by some fever; this, however, yielded to a bleeding and saline diaphoretics.

On the 5th of July I introduced the lithotripter, No. 3; very readily caught the stone, and made several perforations through it, and perceived it to break away considerably. This instrument was introduced and withdrawn without appearing to cause him any pain or irritation; he remained setting up the whole of this day, and felt well. On the day following the operation, however, he had a fever, which continued for some time; for the relief of which it was necessary to bleed him twice, and apply leeches over the pubes.

Knowing the stone to be much reduced in size by these two operations, and taking into consideration the extreme irritability of the bladder, I determined not to make any further attempts to destroy the stone until the heat of the summer had passed away, and then to make use of the instrument of Mr. Jacobson in preference to that of M. Civiale. In accordance with the foregoing resolution, as soon as the weather became cool I made five or six applications of the *brise-pierre*, (I have not kept a record of the dates,) and succeeded completely in breaking up the stone. Neither of these operations occupied more than two or three minutes; the last one was performed in November; a short time subsequently to which, Mr. G. passed out the whole of the remaining fragments, and declared himself to be perfectly free from all the painful symptoms he had formerly endured. I now sounded him very carefully, but could not detect any stone. Soon after the operation Mr. G.'s urine increased in quantity very much, and he can now retain it for five or six hours.

It will be perceived that Mr. G.'s case occupied a considerable time: I will just remark, that his case was an exceedingly difficult one; his situation was very critical; my object was to cure him in the safest manner possible; his condition was fortunately such as to allow me ample time, and I accordingly proceeded very cautiously and am happy that my efforts were crowned with complete success.

CASE VI. Richard Judson, aged sixty-five years, a native of England, had been afflicted with the symptoms of stone for several years, he arrived in this city in September, 1833, and applied to me for advice.

Upon sounding this patient I ascertained clearly the existence of stone in the bladder; the urethra was uncommonly large, but I found it utterly impossible to introduce a straight sound into his bladder; the instrument would pass readily as far as the neck of the bladder, and there it stopped; I at once inferred that the obstacle was occasioned either by an enlargement of the third lobe of the prostate gland, or by a tumour situated at the neck of the bladder.

In addition to the symptoms of stone, which were exceedingly painful, Mr. J. was also affected with a most obstinate costiveness, he rarely had a passage under six or seven days, and then not without the aid of an aperient; the hardened portion of the feces came away diminished in size, so as to resemble a large worm; there was also a discharge of mucus from the rectum sometimes mixed with blood.

I must confess that I did not pay a great deal of attention to these symptoms, thinking they might be occasioned either by a stricture of the rectum or by hæmorrhoids, and considering the stone to be the most prominent disorder, to the removal of which last I directed my first efforts.

As I could not succeed in getting a straight instrument into the bladder, I was obliged to abandon of course all idea of employing the lithotripter. On the 4th of October I introduced Jacobson's instrument, and caught the stone and broke it readily several times. I then withdrew the instrument which brought out within its blades a quantity of calculous matter; the patient suffered very little pain from this operation, and it was not followed by a single unpleasant symptom; he continued for many days to pass out sand and fragments, together with one or two distinct small stones. From this period I did not keep a record of the number or dates of the operations, I requested the patient to note them down, and he promised to do so, but neglected it.

The second operation was performed about the latter end of this month; on this occasion I caught the stone without difficulty and crushed it several times; I also perceived that the instrument had caught hold of some soft substance, upon withdrawing it I was astonished to find that along with calculous matter I had extracted a portion of a firm, fleshy tumour.

I freely acknowledge that I felt considerable anxiety respecting the result of this operation; I kept the patient in bed for several days, and watched him very closely; to my agreeable surprise however it was not followed by the slightest fever or any other bad symptom; on the contrary he rested better at night, and felt himself more relieved from pain. After this operation the patient discharged a considerable number of fragments, together with seven or eight distinct stones of large size, of some of which the shortest diameter was by actual measurement half an inch.

Between this period and the beginning of June, 1834, I made probably ten or twelve applications of the brise-pierre; neither of the operations however occupied more than two or three minutes, nor were any of them followed by unpleasant symptoms; the quantity of stone

voided after these operations was immense, the bladder in fact appeared to be almost completely filled with calculous matter. It should be stated that during the winter the patient's system got into a prostrated state, unconnected with any aggravation of the calculous symptoms, in consequence of which however I did not think it proper to apply the instrument for near two months.

The last operation was performed in the beginning of June, it occupied two minutes; one hour after its performance the patient was up and about his room as usual. A short time subsequently to this operation I sounded the bladder very carefully, and could not detect any stone; expressed the opinion that it was sufficiently broken up; and stating that there might be some small fragments remaining, but that I thought they would be discharged without my being obliged to employ again the brise-pierre.

In the beginning of July Mr. Judson was looking out for a situation in the country, to which he could retire during the warm weather, which seemed to distress him exceedingly; about the 20th of the month however he was attacked with a diarrhœa, and he died on the 29th.

On the 30th my friend Dr. PANCOAST had the kindness to make for me the post mortem examination; upon taking out the bladder and rectum I had the gratification to find that I had succeeded most completely in breaking up the whole of the stones; there were remaining in the bladder but four small fragments, much smaller than a great many others which he had passed through the urethra, and had he lived a short time longer these would unquestionably have been discharged.

The structure of the bladder itself did not exhibit the slightest evidence of having been in the least degree injured by my operations; the following note however which I received from Dr. Pancoast will best explain the morbid condition of this organ, and of the rectum, together with the probable cause of the patient's death.

DEAR SIR,

In compliance with your request I have made an autopsic examination of Richard Judson. From the nature of the case, and the shortness of the time allowed me, I limited my attention more particularly to the study of the abdominal and pelvic viscera.

The peritoneum, both in the pelvis and abdomen, was perfectly healthy. The mucous membrane of the intestines was more vascular and of a darker colour than usual. Many patches of a dark-brown colour were found at the lower extremity of the ileon. The follicles were also very much enlarged, especially in the large intestines.

Both kidneys were found of their usual size; containing no calculi. When laid open they appeared much softer than usual, so that the finger could be readily passed through them. They were of a purplish hue; the cellular and adipose tissue surrounding them were hard and dense, and could be separated

from the kidney without tearing up its cortical substance. This, with the hyperemia and softening, constitute the strongest anatomical characteristic of long existing nephritis. The pelvis and ureters were healthy in appearance, though enlarged to about four times their natural size. The bladder was much contracted; the walls thickened to about twice their natural dimensions, and of greater density than usual. The cellular tissue connecting it with the rectum and prostate gland, was so hard and dense as to seem to have prevented even a moderate dilatation of the bladder; thus probably causing the dilatation of the ducts of the kidneys by the accumulation of urine in them. From the healthiness of the structure of these ducts, the inflammation of the kidneys could not within any recent time, at least, have been an extension of disease from the bladder. The mucous membrane of the bladder was thicker, but not softer than usual. The cavity of the bladder was of very irregular form; the prostate was enormously enlarged, and generally of a scirrhus hardness; it formed an irregular sphere of about two inches and a half in diameter: its vertical development was almost entirely at the expense of the cavity of the bladder. The projection made by the middle lobe into the bladder was about the usual size of the entire gland. On each of the enlarged lateral lobes was a projection overhanging the caput gallinaginis, about the size of the human ovary. The opening into the bladder was thus very much obstructed, and nearly vertical at the prostate gland owing to the projection of the middle lobe. On the right side of the caput gallinaginis, was found one and on the left two smooth, oval cavities, extending almost to the bottom of the prostate, all of which appeared to have contained calculi, and in one a small calculus was found. These cavities were from half an inch to three-quarters in diameter. The bas fond of the bladder was formed of two similar cavities, with an elevation of the mucous membrane between them. In the posterior wall several cavities of the same sort were found, two of which contained small stones. The cysts were formed of all the tunics of the bladder. Four fragments of calculi were found free; the largest of which was about the size of a small hazelnut. The projections of the prostate gland into the bladder, were softened and pultaceous at their top, and of a dark colour. In the centre, and on the side of the rectum, the gland was of a scirrhus hardness, and of a bluish colour.

The anterior wall of the rectum, immediately adjoining the prostate, was softened and almost removed by ulceration, for an extent about equal to the size of the gland. The margin of the ulcer was steep and scirrhus; the tunics of the intestines blended together by the disease, with that complete loss of anatomical character which we observe in cancer. Opposite this place, and just below it, the calibre of the intestine was very much contracted, so as to leave but a very narrow opening for the passage of the feces.

Yours, very truly,

J. PANCOAST.

TO DR. RANDOLPH.

As I propose at some future day, upon greater experience, to offer my views relative to this most interesting operation, more at large, to the profession, I shall not at present anticipate any remarks which I may then have to make, further than by replying to one or two objections which have been urged against the operation.

It has been stated, and that too by some who profess themselves friendly to lithotripsy, that this operation will be found applicable to a small minority only of the cases of stone. The ample experience of the European gentlemen engaged in the performance of this operation, backed also by my own limited observations, has led me to a very different conclusion. I believe that of the cases of stone in adults, eight out of ten will be found suitable to the operation of lithotripsy. Stone occurring among children I do not take into consideration, because in them the operation of lithotomy is comparatively so safe that I do not think it requires a substitute.

Since engaging in my first case of lithotripsy, in September, 1832, ten cases of stone in adults have come under my notice; the history of six of these cases I have already detailed. The seventh case occurred in a coloured female, who had a small stone, which I have no doubt could readily have been crushed; she, however, suddenly disappeared, and I have never seen her since. The eighth case occurred in a young man from Virginia, upon whom I operated twice successfully in the Alms-house Infirmary, in the presence of a number of gentlemen; this patient unfortunately contracted a typhus fever, and when convalescent, returned home to recruit his strength, under a promise to return; he, however, was induced to submit to lithotomy in Virginia, and it was stated that the stone was broken by my operations. The *ninth* case occurred in a gentleman of this city, who changed his mind during the preparatory steps for lithotripsy, and was successfully cut by Dr. HARRIS. Dr. H. informed me subsequently, that the stone was so soft that it broke into pieces in extracting it from the bladder.

The tenth case occurred in a medical gentleman who came on to this city from North Carolina, with the express view of submitting to the operation of lithotripsy; I freely admit that the operation was not applicable to this case; upon repeated examination I ascertained that there was an ulcer situated just beyond the mouth of the urethra, in consequence of which the canal was so much contracted at that part, and the attempts to dilate were productive of so much pain, that I was obliged to abandon lithotripsy, and perform on him the operation of lithotomy, which terminated successfully.

Another principal objection which has been urged against the operation of lithotripsy, consists in the difficulty of extracting the numerous fragments into which the stone may be broken, and the liability of such fragments to remain in the bladder and serve as nuclei for the formation of other stones. This may appear to be a very important consideration to persons unacquainted with the extraordinary power which the bladder and urethra possess to discharge foreign substances

lodged in them. I have so repeatedly, however, witnessed the discharge of fragments, of almost incredible size, that I am well convinced this difficulty has been very much exaggerated, and I believe that by proper attention, any fragment which may exist in the bladder, and be too large to pass into the urethra, can be detected by a sound, and broken up by an instrument, so as to admit of being discharged.

With respect to the fragments lodging in the bladder, and serving as nuclei for other stones, I here wish to record a fact, which I am not aware has been noticed by any preceding writer, it is this—that *fragments of stone lodged in the bladder, and too large to pass through the urethra, so far from invariably increasing in size by accretion, in many instances have their angles and sharp corners so rounded off by the action of the urine, as to be reduced to a less size, and admit of being discharged.* I have several specimens which conclusively illustrate this fact.

If it be admitted, however, that a fragment of stone remaining in the bladder forms a sufficient objection to the operation of lithotripsy, it must be conceded that the same objection applies in no small degree to the operation of lithotomy. It not unfrequently happens in extracting a stone through an incision of the bladder, that owing to its softness it is crushed into innumerable fragments by the blades of the forceps, and under such circumstances, no man, whatever care he may exercise, can say with certainty that he has extracted every particle of the calculus. I believe the operation of lithotomy is very rarely performed without some small fragment of stone being broken off during its extraction, in a great majority of cases such a fragment escapes from the bladder along with the urine; in other instances, however, it may remain and serve as a nucleus for another stone. Cases indeed are reported in which after the operation of lithotomy has been performed, there has been a recurrence of the stone, and the patients have been cured by the operation of lithotripsy.

With respect to the comparative safety of the operations of lithotripsy and lithotomy, this is a point which experience alone can determine; my own impressions are in favour of the former operation, at any rate it is the one which I would select to have performed on myself in case of need.

It must be conceded that the operation of lithotripsy possesses one great advantage over lithotomy, sufficient, I think, of itself to outweigh all the objections which have been enumerated—which is, that it is not attended with the danger of incontinence of urine.

This evil which not unfrequently occurs in males, and almost invariably ensues from the operation of lithotomy in females, is itself

of such magnitude as to render life scarcely desirable. May we not hope that the day has arrived when no man will be willing to subject an unfortunate female to such a terrible consequence, by resorting to the operation of lithotomy instead of lithotripsy.

I do not propose to enter upon a discussion of the relative merits of the several instruments used for the performance of this operation; it is very natural that the inventor of each of these should endeavour to establish his own method, by using every argument in his power in favour of his own instrument, and saying as little as possible in praise of that of his rival.

Admitting that M. Civiale has exaggerated not a little the successful results of his operations, still it cannot be questioned that he has performed a sufficient number of cures to immortalize his name, and we cannot for a moment suppose that the rewards and honours which have been heaped upon him by competent judges, would have been bestowed upon one undeserving of them.

Mr. LEROY D'ETIOLE, who claims the merit of being the principal author of the operation of lithotripsy, in a statement made by him in July, 1833, says, that out of thirteen cases of stone he succeeded in curing twelve; he admits, however, that in each of these operations he made use of the *brise-pierre articulé* of Mr. Jacobson, and that three of the cases were cured by means of this instrument alone.

The "*percuteur courbe a marteau*," invented by BARON HEURTELoup, I have not yet had an opportunity of procuring; the success derived from its application by its distinguished author has been flattering in the extreme; out of thirty-eight cases of stone he succeeded in curing thirty seven; these operations were witnessed, and are certified to by some of the most distinguished surgeons and physicians of all Europe.

Sir ASTLEY COOPER placed the unsuccessful case under the care of the Baron, and after death furnished its autopsic history, in which he says there were sufficient causes of death independent of the operation.

It is not necessary for me to repeat what I have already said in praise of Mr. Jacobson's instrument.

I cannot conclude this paper without offering to each of the names I have enumerated the homage of my unfeigned admiration and respect for having ameliorated the condition of suffering humanity, and enriched our science by the introduction of their most useful and important discoveries.

Philadelphia, September 1st, 1834.

ART. II. *Account of the Epidemic Yellow Fever which prevailed in New Orleans during the Autumn of 1833.* By EDWARD H. BARTON, M. D.

NEW ORLEANS is situated in latitude $29^{\circ} 57'$, and longitude west from Washington $13^{\circ} 9'$, on the left bank, and in a large bend of the Mississippi. It is ten feet and a half above the level of the sea, from which it is distant in the course of the river about one hundred miles, about sixty miles in a south west, and about forty in an eastward course. Five miles north of it is Lake Ponchartrain, which receives the drainage of the city and superfluous waters of the vicinity through the Bayou, St. John, &c. The inclination from Levee street in front, to Rue Marais in the rear, is about eight feet three inches. The city is fanned by the delightful sea breeze from the south west every morning, which is the harbinger of health whilst the prevalent wind. The river rises about fourteen feet, and generally reaches its maximum elevation late in March or early in April. The level of the city is several feet below high water mark, and it is protected from inundation by an embankment or levée three feet and a half high, which extends about five miles along the river, and about two-thirds of a mile back to the swamp. The city is built upon a soft alluvial soil but a few feet above the water in the wells, (dependent upon the state of the river,) the dampness is consequently very great; the streets are filthy, and but partially and badly paved. In the body of the city, ($\frac{1}{4}$ th of the whole area,) water is made to run constantly along the gutters from the river to the swamps during the summer. In 1830 the city contained about 46,310 inhabitants, exclusive of a floating population during the winter and spring months of from 15 to 20,000; increasing on an average of near $2\frac{1}{2}$ per cent. per annum, and hence containing in 1833, 53,234, making altogether about 70,000 inhabitants.

The prevailing diseases of *January, February, March, and April, 1833*, were decidedly intestinal—diarrhœa, dysentery, and many cases of cholera.

During *May* the range of the thermometer was 18° ; maximum being 88; minimum 70, and average of the whole month 78.42. The range of the barometer was .30, the maximum 29.70, minimum 29.40, and average 29.74. Winds principally from the S. W.; quantity of rain 6.22 inches. The character of the diseases continued to be decidedly intestinal, with a great tendency to run into cholera from neglect or improper treatment.

In *June* the range of temperature was 25°; the highest being 94; lowest 69; average 82.09. Barometric range .43; the maximum being 29.75; minimum 29.32; average 29.62. Rain 6.22 inches. Winds steadily from S. E.; in latter part of the month more S. W.; weather raw, disagreeable, and particularly so when the cholera reached its height, about the 8th, when there occurred a heavy fall of rain, with much thunder and lightning, soon after which the wind veered round to the S. W. and W. the disease gradually declined. The epidemic strongly impressed its character upon most diseases of the month, uniting its symptoms with those of other diseases, as cramps, or rice water discharges, with ordinary symptoms of bilious fever—or the peculiar coldness, or the vomiting, with a *great* and *indeed* excessive sensibility of the *alimentary canal*, with liability to run into diarrhœa upon the least change of temperature or transgression in living. This disease was indiscriminate in its attacks, with regard to age, sex, or colour, selecting those whose equilibrium of constitution was deranged or thrown from its balance from intemperance or imprudence of *any kind*, or from change of diet—*always* however with premonitory diarrhœa, ranging in its duration from six to forty-eight hours, and running into collapse in from three to twenty hours. The disease finally lost its intensity and prevalence with the changes in the condition of the atmosphere.

The thermometric range in *July* was 19°; highest 90; lowest 71; average 81.13. Barometric range .25; maximum, 29.82; minimum 29.57; average 29.70. The prevailing winds were S. E. and S. W. Weather showery; the fall of rain but 3.3 inches: the city again became pretty healthy, though great liability to take on intestinal disease on change of weather to cold and damp, and with east winds, and during the highest range with cold nights, bilious fever.

During *August* the range of the thermometer was 19; the highest being 90; lowest 71; average 79.97. The barometric range .27; the maximum 29.79; minimum 29.52; average 29.58. Rain 8.17 inches. The winds in early part of the month mostly S. W. and N. W.—a few days from S. E. The weather showery; days and nights hot and oppressive; the thermometer often at 10 and 12 P. M. and at 1 A. M. as high as 81, 2, 3, and 4! a height of temperature, at night, unprecedented in this country, where the summer nights are usually as cool and pleasant as in any part of America. Before the middle of the month the wind got round to the eastward, and continued blowing fresh with a high thermometric range, the weather very oppressive and showery, and from the streets there arose a very offensive odour. In the second week the yellow fever broke out, and continued in-

creasing until it reached a daily average of thirty cases. Its type was mostly malignant, with great determination to the head.

During *September* the thermometric range was 21; the highest being 88; lowest 67; average 77.57. The barometric range .23; the maximum 29.73; minimum 29.50; average 29.60. Rain 5.50 inches. Winds regularly E. and S. E. until 21st, when they came from the N. continuing three days; thence returning to S. E., E., N. E., blowing all the time *very fresh*. The weather being exceedingly disagreeable and raw—during the first week rain almost every day, and producing an influence on one's feelings beyond the temperature and moisture, there being a great deficiency in reaction in the cases: during the second week more hot and oppressive; temperature at night 79 and 81. The diseases during this week were more mild and manageable, though the number of cases was not diminished. During the third week the weather was more pleasant, though warm for the season—the winds shifting, but never getting west for more than an hour or two; the number of cases lessening, probably from fewer subjects, but strangers came in, and added somewhat to the mortality. The disease now participating more of the type of our usual fall fever, with symptoms of deeply radicated gastro-enteritis, with comatose tendency. In the latter part of the month some intermittent fevers, diarrhœa, dysentery, and a few cases of cholera.

During *October* the thermometric range was $39\frac{1}{2}$ —the highest being 80; lowest $41\frac{1}{2}$, and average 65.53. The barometric range .43; maximum, 30.03; minimum, 29.60; average, 29.75; rain, 3.5 inches. The weather has been during the first week very pleasant, some cold mornings, but middle of the day hot. Winds N. W. to N. E. and E. The disease became more mild, the type somewhat changed; eyes not red; tongue less white on surface, but edges more deeply red, and sooner become dry; fever continues longer, and skin more obstinately dry. Some of intermittent and remittent type; the cold weather found very injurious to the sick. The weather continued rather warm to the 18th, and then gradually cooled down on the 22d to $41\frac{1}{2}$, when there was perceived a slight frost in several parts of the city, and some ice was seen, the winds changing from S. E. and S. to N. W. and N. and still blowing fresh. There has been no calm throughout the season. The disease continued notwithstanding several frosts, though mostly confined to new-comers, and particularly steerage passengers. The wind in the latter part of the month occasionally from its old quarter, S. E. and E. and N. E. and high; dust very oppressive from the long drought. The type of the disease continued to change from the ardent character of the first part of the

season; no great external heat and with a particular disposition to run into a protracted form; not the same force and activity of the sympathies; there did not seem such an urgent demand for activity of treatment. Disease mostly confined to steerage passengers and strangers generally.

The thermometer's range during *November* was 50—the highest 77; lowest 27, average for the month 55.03. The barometric range .53; maximum 29.97; minimum 29.44; average 29.73; rain 2.40 inches. The winds in early part of the month S. E. and E. temperature, very pleasant. It changed about the 10th or 12th, the day preceding the splendid meteoric phenomenon of the falling and shooting stars, to N. and N. W. and seldom was E. again. The disease gradually disappeared—during the first week some cases at first wanted none of the symptoms of the epidemic, notwithstanding the frosts which were unusually early and severe; and in the latter part of the month much of bronchial irritation developed itself.

During *December* the thermometer's range was 44, the highest being 72, lowest 28, average 56.65. Barometric range .53; maximum 29.93; minimum 29.40; average 29.68; rain 3.71 inches; the winds very variable, N. E., N. W., S. W., &c. It has been an unusually cold month, rains frequent, and hail the size of a musket ball on the 13th. Bronchial irritations and inflammations the prevalent disease, with a few cases of scarlatina and cholera.

As precursor to the dreadful scourge which followed, it becomes me to mention several enlargements of the inguinal glands, occurring without the least suspicion of venereal contamination, similar to those mentioned by authors as premonitory of the existence of mortal epidemics; also several cases of menorrhagia. The streets throughout the city were filthy, exhaled a peculiarly offensive odour after rains, and generally so at night. There was much sickness with horses, cattle, and swine in the country.

The country throughout was unusually sickly; crops fine; fruit bad. Weather during autumn beautiful, air cool, delightful atmosphere, exhibiting the brightness of an Italian sky, as has been so often remarked during our severe epidemics.

DIEMERBROECK, (on the authority of a number of writers; and the same has been remarked by Dr. RUSH and many others,) observes that an uncommon abundance of insects, for many years has been noticed to portend pestilence, and we accordingly remarked here, that the flies and mosquitoes particularly were unusually numerous preceding the epidemic—the latter continued throughout the season.

From the preceding succinct and general medical and meteorological history of the year, it cannot have escaped attention that the precursors of the malignant epidemic of the season were gastro-intestinal affections of every grade and severity, from simple extra-sensibility of the gastro-intestinal mucous membrane, to the malignant cholera running its course in six hours. The evils resulting from this epidemic constitution of the atmosphere, and the predisposition to the malignant yellow fever that afterwards occurred, was greatly aggravated by the adoption of the advice so generally given, to live high and drink freely of brandy, &c. to prevent an attack of cholera.

The *local causes* of the epidemic are numerous, some of them so nearly affecting the habits and prejudices of the people, that they have been pointed out in vain, and I therefore forbear extending the limits of this paper by enumerating them.

The heat of the nights in early summer was a departure from our general experience in this climate, and the long continuance of the *easterly winds*, blowing *fresh at the time*, (not one day, and scarcely an hour calm,) with their remarkable influence, as every one observed, in lowering the healthy tone of the body, probably from depriving it of its electricity, doubtless influenced to a great extent the intensity of the prevailing disease. These winds uniformly exasperated the yellow fever, and if they do so, they *can surely tend to produce it*. The truth is, that during the great epidemics of 1800 and 1819, these winds "*prevailed constantly for a period of three months.*" The same occurred here in both the epidemics of 1833, (cholera and yellow fever,) during the dengue in 1828, and also precursory to and at that time, to an unprecedented extent preceding and during the dreadful epidemic cholera here of November, 1832, and the injurious effect of easterly winds has been remarked by others.* The unusually early and severe fall and winter will long be remembered; indeed since the epidemic cholera reached America, and some years before, there had been a series of *unseasonable* years, defying all the calculations and anticipations of the planter—destroying his hopes and blasting his fortunes, only paralleled by the character of the same dark drama of floods and failures of crops which has been enacted on a more costly scale to the Asiatic nations, preceding and coëxisting with the outbreak of epidemic cholera there in 1817; such as droughts and deluges, storms and tempests, and a range of temperature out of all season and experience. These remarks have been verified by re-

* Vide Chapman on Epidemics, and Edinburgh Review, No. 72, &c.

ference to my meteorological journal, which I have kept for nearly fifteen years.

To the medical historian of this year's remarkable incidents belongs the curious fact, which has been elsewhere observed, of an increased tendency in females to multiply during and after great general epidemics, after a cessation of many years, as if it were in the order of Providence to supply the place of those taken off by the ravages of pestilence. Numerous instances have fallen under the knowledge of myself and friends, too many for remarkable coincidences; one where the lady had ceased twenty-five years, being fifty years of age; another thirteen, &c. &c. It is in vain to speculate upon an occurrence so extraordinary; our life, death and existence in every variation and gradation are dependant upon the condition of the atmosphere in which "we live, move and have our being," how important then to study its character, to understand and modify its influence, and prevent and cure the diseases incident to its qualities and vicissitudes.

The range of the thermometer has been supposed to have great influence in the production of yellow fever, and meteorological tables from 1793 to 1817 in Philadelphia, embracing numerous epidemic years, have been published, showing its connexion, if not dependance upon it, and a successful attempt seems to have been made to demonstrate its *dependance* upon an average at 3 o'clock of not less than 79° during the summer, and especially during the two whole months of June and July; and the extent and malignancy of the disease to be proportioned to the extent in which it exceeds that height; and the writer successfully refers, as proofs, to the tables of mortality occurring during the above period of twenty-five years; and he further believes, that the average temperature of the two months of June and July, at 3 P. M. (or midday,) to govern the season, with reference to health, insomuch that if by the 1st of August in any year the thermometer properly placed, indicate during these periods a less degree than 79°, we may feel full confidence that during that season they will not there be afflicted with yellow fever. We are not without other authorities bearing upon the same point. Sir GILBERT BLANE says that "this fever is restricted to a certain range of atmospheric temperature, not appearing unless the heat of the air is permanently equal to that within the tropics, that is, about 80°;" and M. AREJULA, (a Spanish physician of eminence,) says "that under 23° Reaumur, (82° Fahrenheit,) it never appears." Let us see how far this will apply to our climate for the last season—its bearing or connexion with former years, I reserve for a future opportunity.

1833.	Midday.	Average for the Month.
June - - - -	86.76 - - -	82.09
July - - - -	85.16 - - -	81.13
August - - -	83.61 - - -	79.97
September - -	83. - - -	77.57

This appears to afford a strong corroboration of the authority above cited.

The epidemic, of which it is the especial object of this paper to give an account, commenced its ravages on the first week of August, reached its acmé about the middle of November, and gradually lost its peculiar character in the first week of November.

As it is impossible to embrace in one general view a fever whose various types were easily recognised by the eye of experience and observation, I shall notice such grades as were obvious to me. These varieties do not indicate any specific difference of action, but constitute different grades of the same action, in individuals of different temperaments, susceptibilities, exposures; form natural classes, having a family likeness, which are essential to be observed, as leading to a just prognosis and proper treatment.

CLASS I. THE CONGESTIVE.—The attack is sudden, the patient is at once prostrated and overwhelmed; there is dull pain in head; questions are answered with difficulty; skin bronzed; eyes red and muddy, like one drunk; pulse weak, soft, or natural; tongue with red edges or natural; extremities cold, and skin generally so, except the central portions of the body, which are preternaturally hot; pain and oppression in epigastrium; appearance of great anguish, or insensibility; the patient lying uncomplaining on one side or back as if but little ailed him; stupor; pupils enlarged; hæmorrhages. Reäction slow, and requiring much but cautious depletion to open the condition. See Case II. as a prototype of this class.

CLASS II. THE OPEN INFLAMMATORY FORM.—This was the most usual, it commenced generally with a chilliness, followed by violent pain in the lower part of the forehead, just below the eyebrows, and in the back and loins; high fever; pulse from 100 to 125; tongue white with red edges; eyes inflamed and blood-shot, with the peculiar muddy, idiotic expression, with great sensibility of the stomach, and ardent desire for cool drinks; tenderness and tension in epigastrium, running through regular stages. See Cases I., III. &c.

CLASS III. SIMPLE FORM.—This class differs but little from the preceding, except in the general mildness of the symptoms; the pain in the head is more diffused and general; not much or severe pain in back or extremities; the tongue sometimes loaded, edges red and fleshy,

and still great sensibility of the alimentary canal to medicines; the type easily recognised by the peculiar expression of the eyes, not so red and injected, but dull and muddy, occurring mostly in the latter part of the season, or in those accustomed to a southern latitude, in whom the predisposition was not strong, and acclimating mild.

The *common course* of the fever is to commence, often without any preceding indisposition or premonitory warning, with a chill which lasts sometimes half an hour, usually less, though sometimes it is absent. This chill is followed by high fever, with an intense super-orbital pain, apparently unconnected with great disordered action of the brain, as the intellectual functions are generally unimpaired, though occasionally there is delirium—a peculiar inflamed glossy appearance of the eye, easily recognised but difficult to describe, a strange compound of muddiness and lustre; pulse 120; great thirst, and desire for cold drinks, with occasional vomiting; pain and heat of stomach; tongue white on surface, with red edges; this generally continues with more or less intensity from twenty-four to forty-eight hours, when there is a remission of all the symptoms, and the patient often feels very well. There is often an anxious expression of the countenance, and jactitation. This condition continues from twelve to twenty-four hours—depending very much upon the treatment; if recur, fever returns, with vomiting or delirium; pain in the head; often suppression of urine; hæmorrhages; extreme sensibility of stomach; black vomit; death.

In internal diseases we cannot *see* the organs which suffer, but fortunately for humanity, suffering organs speak a language through the sympathies, (the symptoms,) which should never be misunderstood. For the deficiency of our senses we call upon the resources of our reasoning faculties; for it will be admitted that many things are demonstrable to reason that are not so to sense, and if we cannot *see* the diseased organ, we will interpret the language which nature speaks, and direct our treatment, (the *only* purpose in understanding *it*,) to answer her petitions for relief.

Appended to this article will be found a condensed abstract from a detailed table, (too large for publication,) kept of all the cases occurring under our immediate care during the epidemic, and an account of the symptoms of the disease, so far as they could be procured, showing the participations in the disease of the great organic apparatuses of the system. From this table it will appear, (and the analysis is necessarily very imperfect;) 1st, that in *every case* of yellow fever the stomach is more or less inflamed—that *it* is the primary seat of disordered action, from which emanate directly or indi-

rectly all the symptoms; that the other organs are variably and sympathetically affected; that they can be removed without removing the disease; that this relief is by means acting through the stomach; that when the symptoms of affection of the stomach are removed, the disease is coterminously removed; that the direct effect of treatment, whether stimulant or antiphlogistic, shows its direct influence on the disease through the stomach—in the first case, aggravating the symptoms—in the second, relieving them: and finally, the appearances after death, showing the *causa mortis* to be gastro-duodenitis. To the all-important question, then, what organ suffers most and primarily in yellow fever, the disorganization of which produces death, the restoration of which produces health, and which is the seat of the ravages found after death, will be answered by an analysis of the symptoms, and by reference of them to their true and only origin—the *stomach*. This organ is connected to other organs by two order of sympathies: 1st, the *organic sympathies*; and 2d, *sympathies of relation*. To the first belong *affections of the heart*, as great frequency, or great slowness of the pulse. One case occurred in which the pulse was but 40 in the minute during nearly three days; the intense beef-steak redness of the tongue; anxious expression of countenance; pain on pressure in epigastrium, and on drinking warm or stimulating fluids, and the great desire for, and gratification on, drinking cool and subacid fluids, left no doubt of the correctness of attributing it to inflamed stomach—which was proved also by two local bleedings from the epigastrium and cooling drinks relieving it promptly. 2d. The general anxious expression of *countenance*. 3d. The deep sighing and occasional cough in the *respiratory* system. 4th. The colour, dryness, and moisture of the *general surface*. 5th. The occasional constipation, or diarrhoea, of the *intestines*. 6th. The occasional biliousness of the *hepatic*. Bilious vomiting, I think, I met in but one case; here there were evidences of excessive hepatic secretion throughout the disease—the *discharge furnished no relief*, and the fever was very obstinate and difficult to be subdued. On its termination the patient was quite yellow. No mercurial preparation was given throughout his disease—*bilious secretion* being *over-free* without it; and he recovered his colour and health in a few days, (see Case VII.) 7th. The suppression of, or high colour of the *urine*. 8th. The occasional hæmorrhages, &c. from the *uterine*. 9th. And the white surface and red edges, and occasional dry appearance of the *tongue*. Dr. Rush remarked in the yellow fever of 1793 that “the tongue was in every instance moist and of a white colour, as the disease advanced it assumed a red colour, and red shining appearance; it was not quite dry in this state:”

this concurs with the general experience of writers on this disease. To the *second* belong those affecting the *cerebro-spinal system*, as pains in the head, back and limbs, and want of sleep, delirium, &c. That the brain and nerves are but sympathetically affected in this disease, besides what has been above said, is further proved from the fact, long ago remarked by Dr. Rush, that "it was very uncommon to see tremors of the limbs and twitching of the tendons in it, which occur only in those where there was a predisposition to nervous diseases," which has been corroborated by subsequent observers, and the rapid recoveries from it is still further evidence of the fact, these occurring in diseases only in which the brain and nerves remain for the most part unimpaired.

Besides these there are the *direct evidences* of the involvement of the stomach itself, known from the great thirst and desire for cold drinks, and the benefit in indulging in them, and anguish, uneasiness and pain produced by warm and stimulating fluids; the loss of appetite, the vomiting and the pain, and tension and heat in epigastrium; the condition of the tongue; the immediate effect of local detractions of blood from the epigastrium, relieving all these symptoms, and the influence of soup and other stimulants, producing red and dry tongue and delirium, instances of which will be mentioned in the cases. I may mention now, that an example occurred in Mr. B. of perfect bulimia, with all the symptoms of the fever; red, clean tongue; red, fiery, staring eyes; pain in the epigastrium; great thirst, desire for cold drinks; two or three local detractions of blood from the vicinity of the stomach soon relieved it and he recovered.

Further proof there cannot be wanting of the *specific* and *general inflammatory* nature of the disease under consideration, for besides the predisposing causes and the particular circumstances, to prove the existence of local inflammation; the high pulse and general fever; the delirium; the blood-shot eyes; the white tongue, (so often enumerated by authors as a proof of inflammation;) the hæmorrhages; the violent pains in the head, back, and limbs; its rapid termination by disorganization of important organs, and almost uniformly of the stomach and duodenum, if not speedily arrested by depletion; the inflammatory character of the diseases that preceded it; the long continuance of the hot dry weather. SYDENHAM, RUSH, HILLARY, &c. have remarked that diseases are made more inflammatory by this description of weather, and lastly the great and immediate benefit from the use of general and local depletion and antiphlogistics.

Dissection showed in every case, inflammation of the *stomach* and *duodenum*, and sometimes extending varying distances into the gall

ducts, even as far, in some cases, as the gall bladder itself; the *liver usually unaffected*; the gall-bladder containing a due portion of *healthy bile*. In intemperate subjects there is sometimes found great engorgement of the vena portæ. In the congestive cases, where the system sunk with imperfect or no reâction, pulse unaffected, or small and quick, stupid drunken expression of countenance, the whole alimentary canal exhibited symptoms of the most intense devastation, even to effusion under the mucous membrane, and almost gangrenous degeneration. These appearances were extensively observed by Drs. HUNT and STONE at the Charity hospital, whose numerous dissections in such a loathsome disease, at such a season, entitle them to great credit.

These autopsical researches correspond with those which have been usually found in this disease in various parts of the globe, fully proving it to be *gastro-duodenitis* with occasional involvement of the brain, liver, &c. dependant much upon season and habits; but these latter organs are seldom *primarily* involved; their derangement can be relieved without curing the disease; they are seldom the cause of death. This however is not the case with the former; there *can be no yellow fever without gastric symptoms*; there *can be without cerebral or hepatic*; the involvement of these latter organs is often due in a great measure to the treatment. Hepatic or cerebral stimulation *must leave its impression behind it*, and how far stimulants are indicated in the disease, when these organs are so often already *over-stimulated* or liable to become so, must be answered by those who are in the habit of prescribing that class of medicines.

From the foregoing observations and physiological explanation of the symptoms, we presume the following corollaries will be admitted, viz.—1st. That there are *general symptoms* of inflammation.

2d. That there are symptoms of specific or *local inflammation*.

3d. That the *primary seat* of this inflammation is in the *stomach*.

4th. That other organs are but *secondarily* affected, as the brain, liver, &c. Upon this pathology we lay the foundation of our treatment.

Let us proceed then to the exposition of the principles simplified by this view of the subject, and reduced in its indications, to—

1st. Controlling or subduing the general inflammatory disposition of the system, produced by the primary influence of the disease on the most susceptible organ, and one having the greatest range of sympathies.

2d. Subduing that inflammation itself; and—

3d. Removing its sympathizing consequences in the organic system, and system of relation.

The 1st is accomplished by general bleeding.

The 2d by local bleeding, by cooling drinks, &c.

The 3d by local detractions of blood, by cold ablutions, ice mucilages, aperient medicines, enemata, pediluvia, and fomentations, &c.

The *modus operandi* of the 1st.—The heart being connected with the stomach in the closest organic sympathy, it soon partakes of its irritations, and extends, by its universal action, its excitement to other organs, increases the extent of diseased action, embarrasses to that degree all the functions, and cripples the ultimate recuperative energies of the system by weakening its power, besides keeping up the irritation in its original seat: hence, then, the importance of arresting *in limine* the undue action of this important viscus, there is no mode that so rapidly and speedily affects this very often indispensable object as the lancet; and probably in no disease is this more essential than in yellow fever. This is emphatically a disease which runs through its *curative stage*, (when severe,) more rapidly than almost any other, (cholera excepted,) seldom extending beyond thirty-six hours. Neglected or improperly treated beyond this period, disorganization of some important organ, or some fatal congestion, is almost sure to occur. From these circumstances, then, the great importance of the early abstraction of blood when there exists excess of plethora, to diminish the momentum of a powerful internal stimulus. I found also relief much more surely obtained, and much more permanent when the blood was drawn whilst the patient was in a horizontal posture; when taken in an erect position, even *ad deliquium*, the pain in the head was sometimes not relieved by it, or if so, would rarely continue long. It was a rule then with me to bleed at first, (if called early,) in the horizontal position until *all pain* was relieved, and to repeat the operation at its return, provided there was much force in the pulsations of the left ventricle, and no sufficient contraëvidence of prostration. When I had thus subdued arterial or febrile reëction, and reduced the plethora of the sanguiferous system, and there was return of pain, it was left to the controul of local bleeding. The effect of thus bleeding—when the febrile conflict had reached its height, seldom failed to calm the commotion in the system, prevent unnecessary waste of the vital energy, by moderating the violence of reëction, quiet the irritated organs, and prevent the extension of irritation to remote parts of the system: and I carry it so far until all the urgent symptoms, proceeding from excess of reëction, have disappeared, or been subdued. We thereby prevent the consequences which we know, from reasoning and experience, will result from in-

flammatory congestion produced from unrestrained excess of action in the blood-vessels, at a time when the system is necessarily debilitated from the long continuance of solar heat, occurring as this disease usually does in the last of the summer months.

In bleeding, my object was not so much the quantity of blood removed, as the *impression* made upon the system by the evacuation, and one efficient bleeding, as soon as the febrile excitement is developed, will do more to diminish the excitement of the heart and arteries, and in subduing the violence, and shortening the duration of the disease, than a dozen "moderate" bleedings. These tend to diminish strength without controlling the disease, or removing the inflammatory or congestive tendency of the blood-vessels to particular parts—the heart and arteries have time to accommodate themselves to its loss, and thus resist the subduing influence of the measure: less blood then is actually expended, and the impression kept up in the system. Hence then the difference between Dr. Rush's bleeding twelve to fifteen times, taking each time eight to fifteen ounces, and that recommended here. The object being *effect*, and that kept up where requisite by the repetition of the bleeding to the full intent of accomplishing the desired end, and hence the *quantity* was an object of minor importance; it sometimes required seventy ounces at first, and in twelve to eighteen hours ten to twenty more. But then the *end was obtained*—the disease was, as it were, strangled in its birth; the fever in but few instances continuing longer than twenty-four hours after these bleedings, and they produced but temporary debility. Mr. J. (Case III.) was out and well four days after loosing between eighty and ninety ounces of blood; while in other cases, not so depleted, the fever run on three or four days; and in the first case there was rarely a return; while with the second there ensued the insidious remission on fourth or fifth day, with its fatal return soon after—black vomit, &c. In no disease probably is it more necessary to bleed early, if at all, while the system having reactive power will respond to its impression, and it can have derivative influence. If it be protracted, it cannot cure inflammation with deficient *vis vitæ*, or remove congestion in a prostrated organism. Hence bleeding was mostly an equivocal remedy after the second day. As the season advanced less detraction of blood was required. The importance of using immediate means to arrest this disease, has been beautifully inculcated by Dr. Rush, by comparing it to Time, which has a lock upon its *forehead*, but none behind. For quantity and repetition, see table at the conclusion of this paper, and the cases in detail.

The second indication was accomplished by local bleeding, cooling

drinks, &c. As soon as the pulse was reduced by the lancet, and their still existed pain in the head, back and limbs, great thirst, tenderness of epigastrium, vomiting—from four to eight cups, or from ten to thirty leeches were applied behind the ears and back of the neck, or to the epigastrium, and with the *uniform* effect of alleviating, and almost always of subduing the symptoms. Thus, each visit of the physician was truly gratifying, and little less so to him than to his patient—for he had the satisfaction on each occasion of evincing his power to afford his patient entire relief, and those who have suffered the agonies of yellow fever, know how great a boon that is. It was sometimes necessary from being called late to a patient, from his having taken medicines, and extended the gastro-enteritic inflammation, from vomiting supervening, or becoming obstinate, continuance of fever, from recurrence of pain in epigastrium, head, &c. again to have recourse to local bleeding. Here leeches are much better than cups, and fully answer the end in view: from twenty to thirty should be applied to the epigastrium, usually ten to fifteen are sufficient, for their being now a great hæmorrhagic tendency, from the vital forces being much impaired, and from the broken down state of the blood, the bites will continue to exude blood, sometimes for forty-eight hours, relieving the gastric pains and uneasiness, vomiting and fever, without much increasing the debility; and this they do by diverting blood from the mucous membranes, the focus of sanguineous accumulations.

It is evident then that general bleeding was often not sufficient, for though it extends its influence to every part of the system by lessening the mass of blood, the relief is often but of short duration, *because the local irritation not being subdued, continues to draw fresh supplies of blood into the tissues*, and they soon recover their *preponderance* over the other organs. Hence this local irritation must be subdued in a *more direct manner*, and the strength of the patient saved: but on the contrary, if local bleeding, (in a case where there is plethora of the blood-vessels,) is not preceded by general blood-letting, fresh supplies would be obtained to be poured upon the affected tissues, derived from the redundant fluid in the system. It is obvious then that they are different remedies—one is to the part what the other is to the raging torrent of the circulation. In cases of severity there is no substitute, it cannot be dispensed with. All disease is local first; its greatest; its *lethal* impression is local; its general impression is sympathetic; is transient. It consists in *active local over-excitement*; the obvious remedy consists in local depletion from

the part itself, or from a neighbouring organ or part, having the closest sympathy or connexion with it from which it is safe.

The well-known influence of capillary bleeding over the undue action of the heart; its antagonizing influence over the centre of the circulation; its removing a local irritation from which originated the vascular excitement; the direct and important sympathizing influence of the stomach with the skin opposite; all corroborated by the direct effect of these means, are each and every one, proofs not only of the correctness of the treatment, but of the pathology. These remarks are happily corroborated by very high authority, of no modern date; PARENS and others mention cases of recovery from the plague by hæmorrhages from the nose, &c. continuing one or two days. Rush mentions the same of spontaneous hæmorrhages from the nose and other parts, curing yellow fever. RIVERIUS also cured a pestilential fever at Montpellier by a gradual abstraction of blood, and Dr. HODGES cured the plague in London in a similar manner; "perhaps," says Dr. Rush, "*the uniform good effects* which was observed to follow a spontaneous hæmorrhage from an orifice in the arm, arose wholly from the *gradual* manner in which the stimulus of the blood was in this way abstracted from the body."

And again, he continues, he "often found the pulse so weak, quick and frequent, and with other signs of prostration, that he could not bleed; nature often relieved herself from this condition on the fourth or fifth day, by the discharge of several pounds of blood from the gums, and with the *happiest effects*."

The same authority and accurate observer remarks, "that plentiful sweats and discharges of purulent matter from external sores cures plague, and that their efficacy depends upon the *gradual manner* in which it is done, and that these discharges may be easily and effectually *imitated* by *small* and *repeated bleedings*," and so highly does he think of these gradual abstractions of "stimulus," as he terms the blood and secreted fluids, that he thinks "*in some future time the only question to be asked will be from what part of the body these evacuations should be procured*, the order that should be pursued in obtaining them, and the quantity of each of the matters to be discharged, which should be withdrawn at a time! Had that distinguished and eminent man lived to witness the effect of the application of local bleeding in febrile diseases in our day, based upon the more perfect physiological and pathological knowledge of the system, he would have had additional reasons for his professional enthusiasm and gratitude to heaven.

Dr. WILLIAMS relates the case of the recovery of a gentleman from the yellow fever following small hæmorrhages which continued three days, from wounds in his shoulders made with the scarifier. The gradual abstraction of blood by leeches had a similar effect in our fever, after the second day, subduing and keeping down excitement, irritable stomach and local determinations of blood. Iced gum water and lemonade were freely allowed to fulfil the same indication, and they contributed largely to the success of my practice, and the gratification of the patient. It was, however, found necessary in some cases of great gastric irritability, to limit the drinks to the smallest possible quantity, and sometimes almost to suspend them altogether, and only to rinse the mouth with cold drinks, and to chew ice. The latter indulgence was very valuable, and I sometimes permitted patients to swallow small portions of ice.

For the third, besides the preceding, injections every four or six hours were ordered, to keep the bowels in a soluble condition, and it was in but very few instances *that this did not supersede every other*. To show how little purgative medicine was required, the bowels were kept open by these means, and the *stools were natural in most cases throughout the disease*. Mucilaginous fomentations to the abdomen; when skin hot a free use of cold ablutions; ice in a towel or bladder to the head, and every four or six hours a mustard bath to feet, to equalize the excitement, and to correct or prevent undue determination to the head. The warm bath was occasionally of great benefit where excitement was irregular, and there existed ataxic reaction, to equalize excitement, and then bleeding even in the bath, occasionally answered most valuable purposes. Great wakefulness, a very troublesome symptom, was controlled without difficulty by free depletion from the head. Sometimes there occurred a slight delirium, sufficient to prevent the individual being conscious of what was passing, and recollecting the past, which was relieved by similar means. It was remarked that there was less danger when the pain in the head was, though excruciating, diffused over the entire head, than when confined immediately over the eyebrows.

It was not found necessary in a single instance to resort to tonics during convalescence, (the appetite being already stronger than the digestion,) which was usually very rapid and just in proportion to the preceding unembarrassed state of the constitution. This was remarkably evinced in several who had previously suffered under gastric derangement, (dyspepsia, &c.) and in the cases referred to in the table where return of appetite was protracted; it occurred in subjects who had suffered from protracted chronic ailments, or in latter part of the

season. When this was not the case, the return of appetite and strength was inconceivably rapid. (A gentleman informed me on using some soup which I had prescribed to him, that it passed like electricity through his system, imparting immediate strength—his constitution was unimpaired—see Case III.) Such as these may be said to have yielded temporarily to the blast, they could not resist, and as soon as it passed they stood erect with all their original strength and stamina. Animal food was to be resorted to at first with care, the original gastric irritation being easily reëxcited; the stomach, (*the citadel,*) and bowels, not being impaired by the treatment, and unencumbered by drugging; appetite, and with it, strength, was soon restored. This is otherwise when treated upon a different plan, and the convalescence requires a different treatment; if a patient's bowels can withstand calomel and the drastic purgatives, he can withstand soup, porter, tonics, &c. while physiologically treated, he will only bear the mildest excitement. In the first case, the excitability of the stomach and bowels is worn down by the repeated drugging, if he survives; in the second, only reduced to the grade of recuperative restoration. Hence the first *requires stimulants* to restore the impaired energies of an exhausted constitution; the other the mildest nourishment, as a pabulum for constitutional support; for the treatment consisting only in means to *reduce excess of morbid action*; when that is accomplished, nature only requires support in her constitutional reëction. No experienced, candid, enlightened man will doubt, but that efficient energetic treatment influencing disease, may even alter its stages; it is the test of power and efficiency; it controuls and breaks up morbid action. If then it influences materially the primary impression of diseased action, it breaks up its links, it alters its sequences, it arrests its associations of sympathetic action, if it *directly subdues disease and does not substitute another for it*. Such in fact was the effect of this direct depletory mode, that in but few cases, (when called early and where there was a sound constitution,) *was there a recurrence of fever*; the fever when subdued, which was usually in from twenty-four to thirty-six hours did not return. Hence it is believed to be one of the best evidences of its adaptation to the disease, the true philosophy of the profession. It is at no expense of the constitution. It removes that which *directly* tends to its destruction.

Among the attendants on the late occurrence of the disease were various hæmorrhages—as from the ear, uterus, or anus. My friend, Dr. HUNT, mentioned to me instances occurring at the Charity Hospital, to which he was surgeon, in which blood exuded from the scrotum, and in various cases hæmorrhage occurred from the gums, in those how-

ever *only*, (so far as my observation extended,) where the individuals had taken mercury. A gentleman from the country who had but a few weeks recovered from a severe attack of bilious fever, in which he had been severely salivated, on coming to the city was seized with yellow fever, and suffered excruciating torture in his back, limbs, and stomach, but particularly the former; about the third day salivation came on spontaneously, (for I gave him no mercury,) and he was highly salivated, *without its mitigating any of the other symptoms*. This was followed by profuse and very exhausting hæmorrhage from his gums. He recovered, after a free use of local depletion, but his convalescence was protracted, and it was some time before his appetite returned. A fetid breath was considered a very bad symptom: I saw but one case in which it existed that recovered, and in that case convalescence was very protracted. Great restlessness and jactitation of body was a very bad symptom. I saw an instance of it terminating in speedy death where it was the only alarming symptom. There occurred but two cases of hiccup in my practice. There was for the first few days great liability to faint in the erect posture. A long walk, or rather run, and then plunging into the cold bath, excited the disease in one of my patients: it proved fatal. Intemperance excited it in several. Fear produced it in some. Any thing that tended to destroy the equilibrium of the system, acted as an exciting cause. In one case there was a great and universal soreness to the touch throughout the body. As the disease retired, it assumed in some instances the intermittent form—became more protracted and milder, and almost every instance mentioned in the table of a protraction beyond the eighth or ninth day, were in those occurring in the latter part of the season, or when the constitution had been previously impaired.

Persons of all ages, colours and conditions, who had not been acclimated, were subject to the disease. It was most severe with the robust of middle age and of intemperate habits; it was much milder with the coloured, and in those coming from similar parallels of latitude; most of those from Charleston, South Carolina, escaping, though not universally. The Creoles of the state unacclimated to the city were not exempt. I know of no instance where it was taken a second time. In intertropical countries the disease is rarely taken twice, unless the acclimation may have been lost by a continued residence from the climate for some time in more northern latitudes. In this respect it differs from countries whose winters are sufficiently cold to destroy acclimation, or the accustomed impression of a warm temperature.

I know of no preventive but *rigid temperance*, a free use of the

cold bath, and flesh brush; this has succeeded in persons who were unaccustomed to the city. We are not without distinguished authorities for the efficacy of temperance in exempting from the influence of pestilence, both in ancient and modern times; among others, it may be mentioned that Socrates in Athens, and Justinian in Constantinople, were preserved by means of their abstemious modes of living from the plagues which occasionally ravaged those cities. Dr. HODGES, HOWARD the philanthropist, the experienced Dr. JACKSON, Dr. J. JOHNSON, Dr. CLEGHORN, and Dr. RUSH, confirm, by their personal experience, the utility of low diet as a preventive to plague and yellow fever. The details upon this subject are very interesting, but I have no room for them; they are fully confirmed by my own experience, of now near fifteen years, in this disease.

Such then is the result of our experience with the physiological mode of treatment of yellow fever; it is not confined to one year's experience, it is the result of five, and now for near fifteen years in this climate, I have treated, and seen it treated, by nearly every mode. The grounds of preference will be stated in the sequel. I have thus stated, in as succinct a manner as the importance of the subject would admit, the indications in yellow fever, deduced from its pathology, and the treatment which results. The highly satisfactory result may be seen by referring to the tables at the conclusion of this paper, where it is established that out of my seventy-five cases of yellow fever, only six terminated fatally under this mode of treatment, or eight per cent.

I proceed now to enter more into detail, and show the application of the principles and practice to the cases themselves. To show that these views are derived from and sustained by experience, as well as a priori reasoning, and that they have triumphantly stood the test of the late epidemic. Of course, in a paper like the present I can only give the details of a few cases.

CASE I. Dr. M^K. aged twenty-eight, of a sanguine-nervous temperament, with great cerebral development, and highly intellectual. was taken on the 19th of August with chilliness, feverishness, and violent pain in the head, epigastrium, back and limbs, and even somewhat delirious; having had several days of similar premonition, which had been disregarded in his anxiety to attend to his professional duties. The pulse was found soft, and a little upwards of 100; eyes red and injected; great gastric irritability, and intense thirst; red tongue with strawberry points. A free cupping from the epigastrium gave great relief; ice in a bladder was ordered to his head; a hot mustard foot-bath every two hours; cool emollients and sub-acid drinks; pur-

gative injection. About *midnight* pain in head returned. Cups to temples gave partial relief; fomentations to abdomen.

20th. Slept but little; symptoms returned. Cups to neck and epigastrium, which promptly relieved all the symptoms; emollient enemata every four hours. Attempted to give a cathartic, the stomach rejected it. *Evening*. Recurrence of symptoms; slightly delirious; slept occasionally during the day; pulse 88; tongue same, though paler. Cups to neck, to entire relief.

21st. Slept during the early part of the night very well, latter part restless; some pain in head; pulse 88; eyes still red; abdomen soft; cupped neck very freely, to the entire relief of the head. From some symptoms of intestinal irritation, abdominal distention, uneasiness, &c. which occurred to day, (and the cause of which will be hereafter explained, though we were then unaware of them,) it was deemed adviseable to exhibit a cathartic, (cathartic pills of rhubarb—scammony and aloes each two grains,) which was partly rejected. The sensibility of the stomach was increased by the cathartic, requiring renewed and unremitted attention to the iced mucilaginous drinks, fomentations, &c. to remove it. *Evening*. Pulse better; heat of skin and pulse reduced, which this morning had been higher than usual.

22d. Slept pretty well; skin cool and moist; pulse natural; free from pain; feels very well; some appetite; bowels natural; tongue cleaning; gave barley water, arrow-root, &c.

23d. Slept well; feels in fine spirits; stools natural and *formed*; urine good and sufficient; appetite. About 10 o'clock complained of irritation in the rectum, a frequent disposition to go to stool, with tenesmus, little or nothing except mucus passing. This at first did not at all alarm us; it was deemed an irritation under the controul of anodyne fomentations and local bleeding, and for five or six hours the pulse did not at all partake of it, nor were there any other evidences of intestinal irritation; when however all these means were found not only to have been tried in vain, but that the irritation was increasing, it became necessary to examine into its probable cause, and it was found that he was labouring under rectitis from the improper and *unauthorized* use of a large glyster pipe by his French nurse, who had been in the *habit of using it unknown to us*, sometimes *every half hour and oftener*. Irritation now extended to the bladder and contiguous parts, producing indiscrible torture.

7 P. M. Symptoms became highly aggravated and alarming; pulse sinking; cold extremities. Stimulants; flying sinapisms, &c. were all tried in vain.

Remarks.—Thus this patient was snatched from safety, after he had evidently weathered his disease. The case was extremely interesting, and among the earliest in which the physiological treatment had been tried. The prompt relief in this case from the urgent symptoms by the local bleeding, the gratification of the strongest instincts by cool and sub-acid drinks, cool air, &c. the avoidance of offensive articles believed to be uncalled for by his condition, and inadmissible from gastric irritability, produced from the patient himself, (a highly talented member of the profession, but inexperienced in this practice,) the warmest expressions of delight and surprise, and was most favourably received by all who witnessed it. It was seen to be aptly accommodated to the objects to be accomplished, and it was obvious it fully and fairly effected them, without suffering, or jeopardy, or loss of time. As much interest had been excited by the case, and he was fairly considered to have weathered the storm, many professional friends, as well as myself, were desirous of witnessing the autopsy, to see how far it would account for such an unexpected event. Accordingly I proceeded twelve hours after death, in the presence of Drs. MEUX, PICTON, HUNT, HARLEY, CROCKETT and KELLY, to the examination.

Autopsy.—Body but little emaciated.

Stomach. Some few patches of redness near the upper orifice; *mucous membrane sound.*—*Duodenum and small intestines.* Pretty natural.—*Liver and gall-bladder.* Entirely healthy; latter half-full of healthy, but rather concentrated bile.—*Rectum and large intestines.* From margin of the anus to *twelve or fourteen inches up, the rectum exhibited marks of the most intense inflammation, and some incipient ulceration, particularly around the anus.* The large intestines and bladder and kidneys unaffected. The heart was examined by Dr. Hunt; a slight speck of inflammation, if not ulceration, was observed on its lining membrane.

It was not convenient to examine the head.

From the appearances, it was the unanimous opinion of the gentlemen present that there were no sufficient disease to account for the unfortunate termination in this case, but that exhibited by the rectum.

CASE II.—*September 23d.* B. H. aged twenty-six; six months here, of a sanguine temperament, was suddenly struck with a violent pain in head, so as to make her stupid, she was carried to bed totally unconscious of her situation. I saw her in four hours, and found it almost impossible to get any answers to my questions, and had great difficulty in rousing her. She was stupid and almost comatose; eyes muddy, watery, and injected; skin bronzed; tongue dry and red; pulse 120, soft, and weak; respiration embarrassed; deep

sighing; eructation; extremities cold. Drew nearly eight ounces by cups from epigastrium and back of ears, which having greatly liberated the circulation, she was then bled cautiously to twenty ounces, which roused her, and she could give an intelligible account of herself. Ordered strong hot mustard bath to extremities, and injections of salt and soap-suds, and spirit of turpentine every four hours; warm cataplasms to stomach; gum Arabic water as drink.

24th. Slept well last night; bowels well operated on; stupor lessened; feet cold; thirst; tongue red and dry; bled to ten ounces, and applied cups to epigastrium and neck, and repeat the bath and injections, &c. as yesterday.

25th. Better; skin warm and moist; tongue moist; thirst not so great; intellect still dull, and too much disposed to sleep; bowels well opened; feet cool; repeat the cups behind the ears, and continue the balance of the prescription.

26th. Much better in every respect; skin and bowels good; tongue moist; ordered mild nourishment.

27th. Doing well; no return of fever. Discharged.

Remarks.—Local bleeding is eminently useful in liberating the circulation, when disposed from super-irritation to be concentrated upon a part; this was just such a case, and so are all our worst and most intense grades of summer and autumnal fever, having a local irritation as a focus of sanguineous accumulations, internal medicines have very early the power of removing it, their tendency is to increase it. Many years experience has convinced me that no remedy I have ever seen and tried, has an equal derivative and liberating power to cupping. Reasoning as well as experience are both in favour of it. In this instance I believe there would have been speedy dissolution without it. In such a case, there is not blood enough in the general circulation to permit you to detract from it. This fluid is in the capillary tissue. In proportion then as you remove the local irritation, you diffuse the circulating mass, but as the vis medicatrix in producing reaction, would tend, in the present condition of the part, to disorganization, unless its disposition to concentrating action was controlled, bleeding was requisite in the cautious manner used, to prevent it. This was accomplished, the reactive power was kept in check, fever was controlled, and the case did well. The condition of the tongue showed that the gastro-intestinal surface would not have borne revulsion upon them, by the administration of internal medicine. Hence, the course pursued was the only admissible one, it will rarely fail, when attempted with a cautious boldness.

CASE III.—August 26th. C. M. J., a delicate, sanguineous, ner-

vous temperament, aged twenty-six, eight months here, was taken suddenly on the 26th at 2 P. M. soon after an usual dinner, without any premonition, with chilliness, violent pain in head, back, and limbs, and feeling of malaise at epigastrium. Saw him at 8 P. M. and found him as above; with hot and dry skin; pulse compressible, but sharp, and above 100; tongue white, red edges; eyes muddy. Bled while in a horizontal posture to relief, which, to my astonishment, required about two quarts and a half—then the relief was perfect; ordered mucilaginous fomentations to abdomen; warm mustard bath every three hours; towels wrung out of cold water to head, and surface often washed with the same; mucilaginous sub-acid drink; injection of soap-suds and salt, and to have the vein reöpened if pains returned.

27th, 6 A. M. Had passed part of the night well; skin hot and dry; pain in head returned; pulse 100; some tension of epigastrium and uneasiness of back; tongue white, with red edges. Bled to relief, which required $\frac{3}{4}$ xx.; ice in bladder to head; directions continued.

10 A. M. Some uneasiness of head and epigastrium. Cupped epigastrium with entire relief; directions continued. *Night*. Pulse comfortable; no uneasiness; bowels well moved; stools natural; skin became gradually cool; pulse reduced to 88.

28th, 6 A. M. Passed a pretty good night; skin rather warm; abdomen soft, though little doughy; some dull pain in head; feet, (which had been rather cold heretofore, by increasing the strength of the bath,) had become very warm. Cupped freely from neck and behind ears, with entire relief, and gave a wine-glass of sweet oil. *Midday*. Oil operated well; natural stools; pulse 92. *Night*. Much better; skin cool; no fever or thirst; eyes clear.

29th. Much better; slept well, but sweated profusely; pulse 84; tongue moist and clean, and pale eyes; some appetite; abdomen soft. Continue directions, but lengthening the interval of application. Ordered some very weak chicken water. *Afternoon*. Feels very well; soup revived him very much; feels much stronger; walked several times across the room; pulse 76, soft and full; expression very good, and every symptom of convalescence.

30th. Slept well last night; sweated too freely; weakened by it. Ordered flesh brush to entire surface, (*bis in die*.) Tongue clean; pulse and abdomen natural. Convalescence established; walking about the house. Soup, mush, &c.

31st. Slept well; no night sweat; appetite good; feels well; walked out to business.

Remarks.—This was an ordinary case, where the disease went through its usual progress in a sound and unembarrassed constitution, and is a fair specimen of the treatment. Mr. J. is delicate; temperate; totally unaccustomed to the climate, and had every symptom, from its suddenness and violence, of a severe attack. It promptly yielded to the treatment—every indication having been immediately fulfilled, and though a very large detraction of blood was required to controul the extent of morbid action, yet the patient did not feel incapacitated by it to attend to his professional duties on the fifth day, though the weather was unfavourable. It is hardly too much to say, that under similar circumstances yellow fever would not be more alarming, or more fatal, than intermittent fever. This gentleman had no childish fears about the result to mar the treatment, and had every confidence in the course, which he knew to be new, and met it like a man.

CASE IV.—*August 29th.* O. W. aged twenty-one, of a sanguine, bilious temperament, resident here eighteen months, taken with a chill followed by high fever, and pain in head, back, and limbs, &c.; found him in this condition; three hours after covered with blankets, in profuse perspiration; pulse 125, full, bounding, though very compressible; skin hot; eyes red; tongue white, with red, fiery edges. Bled to about sixty ounces before perfect relief; removed blankets, and gave cool emollient drink; injections; baths of mustard to feet, as above, every three hours, and ice to head. In four hours pain in head had returned; reöpened vein, and took sixteen ounces, previously applying six cups to epigastrium, which seemed to develope and give additional vigour to the pulse; it was now reduced, and all the symptoms relieved. *Midnight.* Was called on account of pain in head returning; cups to side and neck relieved it entirely.

30th. Found him better, but pulse 106; skin hot, and occasionally dry; had slept pretty well after midnight; tongue getting paler, but seemed loaded posteriorly. Six cups to epigastrium, which gave great relief, and opened the skin and cooled it; ordered a table-spoonful of castor oil. *Afternoon.* Better; oil operated well, though it irritated him, keeping up the pulse to 98, with warmth of skin.

31st. Slept well; skin getting cool; pulse 88; bowels and urine good; tongue white and somewhat loaded, edges pale. Continue treatment. *Midday.* Same, but cooler; pulse 74; feels comfortable. *Night.* Same; feels well. Continue.

September 1st.—Slept very well; feels some desire for food; pulse 74; skin rather too warm and dryish; head cool; tongue somewhat loaded, and pale on edges; urine and stools natural. Ordered some gruel to drink as before. *Midday.* Pulse 84; skin warmer; feet rather

cool. Ordered mustard bath to feet, and cool emollient enemata. *Night.* Skin too hot; pulse same, though more tense, and some tension of epigastrium, and occasional pain there. Applied five cups to epigastrium.

2d. Slept pretty well, and felt much relief after cupping; pulse 84; skin cool and moist; abdomen soft; stools natural; urine plenty, though high-coloured; no pain; tongue still loaded, hot; some appetite. Treatment continued, but intervals lengthened, and gave arrow-root. *Midday.* Same, though skin too warm and dry, and bowels not sufficiently opened by the enemata. Gave magnesia. *Night.* Medicine operated; stools natural; patient fainted on pot, to which he *would* get up; skin cooler; pulse softer. Continue baths and emollient drinks.

3d. Slept badly; skin too warm and dry; pulse 80; appetite strong; tongue paler, and somewhat loaded, though mouth too dry; some little tension in epigastrium; eyes good colour. Continue emollients; arrow-root gruel, &c. *Midday.* Has slept several times; some hæmorrhage from gums.

4th. Symptoms same; had slept well; skin rather warm and dry, except when he used foot bath; bowels natural; stools formed; felt weak, and nurse gave *sangaree*, and he was a little flighty afterwards. *Midday.* Some colicky sensations and feeling of heartburn. Gave ginger tea; carb. pot., and ordered some very weak sangaree, which relieved it. *Night.* Easy; had talked a little wildly in his naps several times.

5th. Slept part of the night, latter part badly; tongue dark from blood from gums, and some part of night talked wildly; feet rather cool. Blisters to legs, and continue. *Midday.* More wild; had taken too much port-wine sangaree, and some more bleeding from gums and ear, which has been very free; every other symptom, pulse, bowels, urine, and skin good. Ordered gargle of alum; coffee; arrow-root; weak chicken soup. *Evening.* Appeared much better. About *midnight* became more flighty; hæmorrhage from gums had somewhat ceased. Applied morphia to blistered surfaces, which procured some hours repose during afternoon. At night more delirious; urine abundant; no black vomit; commenced sinking, and died during the night.

Remarks.—The immediate cause of the disease in this case may be ascribed to the great imprudence of the use of a cold bath after excessive fatigue during the heat of the day, and after profuse sweating, and on an unacclimated individual. I thought at the time that the sangaree on the 4th had done some injury—acting upon an excitable individual, and increased the predisposition to gastro-cerebral

irritation, to which his temperament rendered him so liable. The bleeding from the gums very much prostrated him, and doubtless arose from a large dose of calomel, (twenty to thirty grains,) which he had taken before I was called. He was much alarmed throughout the disease, which was much against him, though he had every encouragement from devoted friends and a kind nurse. He had been subject to a purulent discharge from his ear from infancy; the hæmorrhage from that surface was not surprising. He was subject also to pain in the head, probably arising from the same cause, which was difficult to keep under during the disease, and rendered the use of stimulants excessively injurious. The termination at last was unlooked for, even with these additional embarrassments, for the constitution was a good one, and the symptoms of disease seemed to have been removed almost as soon as they originated. My after experience, however, convinced me, (and it was a practical point of great importance, giving rise to much reflexion and observation,) that *leeches* would have answered much better than *cupping* on the 1st, from their gradual and continued abstraction of blood; for in this stage of the disease I found afterwards that blood would continue to ooze from leech-bites in proportion to their size, quantity, and condition of the patient, so as to be graduated almost at pleasure; the discharge then has a better effect in counteracting the tendency of morbid action to *concentration* when the organism is near prostrated, forces more sunk, and less able to resist the encroaches of disease. All this was fully verified by subsequent experience.

CASE V.—*September 4th.* J. O. J. aged twenty-nine, unacclimated; resident here two years; of a bilio-melancholic temperament; looked and felt very bad, with red, watery eyes, for a week or ten days. On night of 3d had set up with the corpse of a deceased friend, and drank more than usual; felt bad; feverish; restless; pain in forehead, back, and soreness of limbs: called to him on 4th, at 10 A. M. and in addition, found his eyes very red, blood-shot and watery; tongue red and dryish; pulse 124. Bled to fifty ounces before the pains in head and back gave way; pulse reduced in force, not in frequency; ordered six cups to epigastrium, and emollient cataplasm afterwards; hot mustard bath to feet every four hours, and injections of oil, molasses, salt; ice to head. *Midday.* No pain; more comfortable; tongue still dryish. Continue. *Night.* Tongue dry; pulse same; skin moist; no pain; bowels well opened; stools and urine natural. Six cups to epigastrium; continue directions.

5th. Passed a good night; skin and tongue, (though a little red-

dish,) moist, and feels much more comfortable; pulse 100; stools natural. Continue. *Midday*. Slept some; feels better; skin good; eyes better; tongue moist; pulse 80; tendency to cold feet; strength of mustard foot bath increased, cold to head. Continue. *Night*. Same; stools and urine natural. Continue.

6th. Slept only partially; feels uncomfortable; soreness of muscles; restlessness; some tension in epigastrium; pulse 84. Ordered sixteen leeches to epigastrium; bath continued, &c. *Midday*. Leeches drew well, and they continued to bleed; feels much better; tongue moist; slept some; pulse 80. Gave him gum Arabic lemonade, which he found very refreshing.

7th. Slept well; pulse 72; skin soft and moist; tongue pale and moist; epigastrium soft; bowels open; eyes getting clear. Continue mild drinks; enemas; ordered gruel and arrow-root. *Midday*. Same. Appetite.

8th. Doing well; slept well; appetite.

9th. Well. Discharged.

Remarks.—Here was a case of great violence, and portending a rapid termination, scarcely at all yielding in its aspect, (except in the violence of the pains,) for about twenty hours, though there had been two copious bleedings, and two cuppings, &c. until the *continued depletion* from the leech-bites confirmed and rendered final what the others had only begun; moistened the parched tongue; cleared the muddy, bloodshot eye; and gave repose to the agitated system.

CASE VI.—*September 7th*. M^r.H. aged twenty-four; a resident fifteen months; of a full, plethoric habit, sanguineous temperament; was taken with severe head-ache, chilliness, and high fever at 2 P. M. on 7th; sometime after four I found him, in addition, with high pulse, of 125; eyes very red and injected, and watery; pains severe in head, back and limbs; in a profuse perspiration, covered with blankets, and skin very hot; pulse not very strong, or of much force, such a pulse as to be expected from such a state of the skin; bled to twenty ounces to relief of pains; ordered iced lemonade, cataplasms, enemas, pediluvæ, as in other cases; in two hours the pains returned; reöpened the vein and drew sixteen ounces to relief. Treatment continued.

8th. Passed a pretty good night; fever continues; pulse 116; some pain in head and back; six cups to epigastrium, and two to neck. Continue treatment. *Midday*. The cups relieved the pains mostly; some pain and heat about the head; two cups to side of the neck. *Night*. Pains removed; fever continues; pulse 100; skin soft and moist; heat of head and hands; ordered ice in bladder constantly to head; and wash skin when hot and dry with ice water.

9th. Better, and slept well; pulse 92; too hot, though moist; bowels open and natural. Continue treatment. *Midday*. Same; eyes still rather injected. *Night*. Easy; feels better; pulse 84.

10th. Better; slept well; tongue almost clean; bowels open; stools natural, as have been throughout; eyes still injected; no pain; skin good. *Evening*. Doing well; pulse 76; slept.

11th. Doing well; bowels, skin, natural; some appetite; gave gruel and rice water. *Midday*. Vomited twice some *dark, flaky matter*, like *coffee-grounds*; gave ice to chew. *Night*. Doing well.

12th. Doing well; slept well; no nausea; appetite; ordered some very weak chicken water; frictions with the flesh brush to surface twice a day.

14th. Eat too much, (a whole squab,) produced feverishness; ordered abstinence; cooling drinks; bath.

15th. Well; discharged.

Remarks.—This was also a case of great violence, with strong determination to the head, eyes very much injected, and a disposition to coma, so much so, that though he answered questions intelligibly, yet for the first five days he was scarcely conscious of any thing that passed. It resisted for several days the most determined depletion, but finally yielded to perseverance. The tongue gradually became pale and clean, the bowels were kept sufficiently open, several evacuations per day by injections, without cathartic medicines, and under this mode of treatment it can be easily effected in this way, nine times in ten, and hence the stomach is saved the irritation they never fail to produce, and great advantage is thus gained by it. I had also to contend with a stupid, inattentive nurse, and hot room. This case also proves, as does many others, that a case in which *black vomit* occurred is curable in patients, the energies and capacities of whose stomachs have not been impaired by *over-drugging*, and the recuperative energies of nature not crippled or destroyed.

CASE VII.—*September 10th*. P. D. aged about thirty-two, bilious temperament, resident eighteen months, taken with chilliness and violent pains in head, back, and limbs; red and glassy eyes, with high fever; pulse full, 120, though not tense, but compressible; tongue white, with red edges; bled to thirty ounces to relief; vomited during the bleeding some bile; ordered cold applications to the head, arms, and surface generally; mustard bath to feet; injections of oil and salt; bath for four hours. *Midday*. Pains returned; fever continues; pulse full, strong, and developed; bled to relief, which now required twenty ounces. Continue treatment. *Night*. Something easier; stools natural.

11th. *Passed* a restless night; heat of the surface continues; pulse much weaker; eyes and tongue same; six cups to epigastrium; ice to head; and continue treatment. *Midday*. Easier; skin moist, but little hot; pulse reduced. *Night*. Skin still hot; persevere in cold applications.

12th. *Passed* a restless night; some pain in the head; stools natural; pulse 104; tongue paler; cups to neck and behind the ears. *Midday*. Easier; skin moist; less heat. *Night*. Easier; skin moist, though hands and head too hot; and vomited twice some bile with much mucus; though stools quite natural by injections; iced barley water; and continue treatment.

13th. *Rested* better, though but part of night; head too hot, and some pain over the eyes; eyes too red; pulse 90; three cups behind the ears; the cold applications; injections and bath persevered in. *Midday*. Much better; profuse perspiration; skin reduced to natural temperature; bowels good; some sleep. *Night*. Easy; continue.

14th. *Slept* pretty well; feels better, though stomach weak; gave barley water and gruel iced, in small quantities, and order two teaspoons of oil; as tongue pale, but loaded at back and middle. *Midday*. Oil operated several times; feels pretty easy. *Night*. Easy; pulse 84. Continue treatment.

15th. *Slept* well; tongue still pale, though foul; feels better; no appetite; pulse 76; continue. *Midday*. Better; walked across the floor; some desire for light nourishment; gave arrow-root, and continue directions at longer intervals.

16th. *Slept* well; feels much better; tongue clean; appetite; pulse 76; ordered chicken water. *Midday*. Walking about; better.

17th. *Doing* well; eyes and skin tinged of a yellow hue, and some symptoms of jaundice; stools light-coloured. Allowed light food.

18th. *Doing* well; had slept well. *Night*. Convalescent; discharged.

Remarks.—This is the only case which exhibited *bilious* symptoms, several times vomiting bile and evincing much gastric as well as hepatic irritability throughout, and hence the obstinacy of the febrile symptoms, demanding much local depletion to remove them; the evacuations from the bowels were natural throughout, no mercury was exhibited, there was not presumed to be any indication for it, having no faith in the *regulating power* of mercury, and believing it a specific *stimulant* to the liver. I saw no indication for its use, when there was already an *overflow of its secretion*. In bilious fevers I had often seen jaundice and torpid livers follow the profuse or long-continued use of mercury. It is to be hoped that correct observa-

tion, enlightened by proper experience, will be substituted for a defective theory and worse practice.

CASE VIII.—*September 14th.* G. L. B. aged twenty, of a full bilious temperament, nineteen months resident. Taken in night with chill, and very violent pains in head, and calves of legs; high fever followed, with thirst; red, injected eyes; pulse 120, full, and very compressible and soft; tongue white, with red edges. Saw him at 11 o'clock, and bled him while sitting until fainting, though pain in the head not relieved; laid him down, and after reëction fully returned, continued the bleeding until entire relief, which required thirty ounces, and ordered mucilaginous drinks and fomentations to abdomen, injections and mustard pediluvium every four hours, &c. 5 P. M. Was removed a few squares in a carriage, and pains soon returned; pulse stronger; reëopened vein and bled to relief, which now required twenty ounces, and prescribed as before, and cold to the head.

15th. Slept pretty well; pulse 116; skin cool; and some pain in head; stools good; tongue white; six cups to epigastrium, which relieved head, and he felt better. *Midday.* Easier; skin cool; pulse 84. *Night.* In sitting up to take foot bath, against directions, (for in this disease they are so liable to faint in the erect position, and it is so hazardous in a prostrated organism,) he nearly fainted; head afterwards affected; delirium and fever followed; ordered ice to head, six cups to epigastrium, and two behind the ears, which gave great relief; skin became cool and moist.

16th. Slept but little; talked wildly, occasionally; pulse 100; skin too hot; tongue white; bowels natural; but little thirst; answers intelligibly; three cups behind the ears; ice to head. *Midday.* Feels much easier; skin cool and moist; bowels good; slept some; seems sensible; continue. *Night.* Head too hot; feels very well, though the nurse says he talks to himself; three cups behind the ears; no pediluvium, the last night it was too hot and strong, and acted as a stimulant instead of a revulsive.

17th. Slept pretty well; eyes better; tongue paler on edges, though still white on surface; pulse 88; skin moist and heat reduced. *Midday.* Doing well; pulse 84; skin and tongue same.

18th. Slept well; feels much better; expression good; tongue more flabby; the milky-whitish coat nearly removed, and a paleness supplied its place. *Evening.* Same; light nourishment allowed.

19th. Slept well; pulse 76; skin, tongue, and bowels good; ordered light soup; egg during day. *Evening.* Some heat of the skin; pulse 88; head-ache; eat too much. Ordered orange-flower syrup and water

iced in tea-spoonful, at a time, and often; cold to the head and surface; injections; foot bath, and abstinence.

20th. Slept well; feels well; pulse and skin very good; tongue pale and shrunk on edges; some whitish fur. Ordered arrow-root; gruel; barley water; frictions to surface; had a natural stool. Discharged.

Remarks.—This was a case of great severity; the patient was conscious of but little that passed the first four or five days. A kind of stupor steeped his senses; there existed great tendency to affection of the head, only to be controlled by a rigid and extensive use of topical depletion and refrigerants; we could not produce revulsion upon the stomach and bowels—for the cerebral irritation was but sympathetic of a primary irritation *there*, and could not safely induce it on the extremities to any extent, for there was too much heat; hence then the local, depletory treatment was the safest and most direct—in fact, the *only* admissible treatment.

CASE IX.—*September 24th.* T. P. aged about thirty-three, of a full, plethoric, corpulent habit, and sanguineous temperament, resident several years, (except summers,) was taken with a chill on 23d, followed by fever, &c.; saw him on 24th, at 6 o'clock, A. M., and found him with fever; hot, dry skin; pulse 110; head-ache, and occasionally delirious; tongue white, with red edges, and had spent a very bad night. Bled him to relief, which required twenty ounces, and ordered ice lemonade; injections; baths, &c. (as usual.)

25th. Slept but partially, though feels better; pulse 98; tongue same; some head-ache; head and skin generally hot, though soft; bowels open. Continue directions. *Midday.* Same; rather more feverish, and increase of pain in head. Ordered cups to epigastrium and neck; continue other directions.

26th. Passed a bad night; slept but little. I now understood that the cups yesterday drew but little blood; felt hot and feverish; skin dry. Ordered fifteen leeches to epigastrium, and two cups behind ears. *Evening.* The leeches and cups drew a large quantity of blood, and gave great relief; he soon fell into a gentle sleep and free perspiration, and now feels much better; eyes look clearer, and expression good; had two natural stools; pulse 88. 10 P. M. Was called to him; had at 9 o'clock suddenly and without any premonitory symptom, except occasional belching of wind during the day, and huskiness about the throat, ejected a quantity of *black vomit* from the stomach, and *thrown to a distance without straining or effort*, (the usual peculiar circumstances attending it;) had been restless, and had just taken

the foot bath: it alarmed him very much. Ordered him to chew and swallow small pieces of ice, and to take iced gum water in small quantities, and to be perfectly still, &c.

27th. Was awake to 3 or 4 o'clock, A. M. from mental uneasiness—then slept pretty well a few hours; had a black liquid stool, about a pint; pulse 92; much agitation of mind; frequent sighing; skin soft; head easy; leech-bites still continue to bleed freely. Ordered continuance of advice of last night. *Midday*. Slept very easily; feels better, and more composed. Dr. ROGERS, (one of our oldest and most experienced practitioners,) visited him to day. My views were concurred in. Continue treatment. *Evening*. Feels easy; slept; skin soft and moist; pulse 88; head easy; tongue paler, injection of flax-seed tea. Continue former directions, and syrup of gum Arabic for drink.

28th. Slept well; pulse 84; skin and head easy, soft and moist; feels some appetite: the injection operated twice—the first consisted of only a little dark-coloured water—the second was a good *mushy, bilious stool*; feels much better; eyes and skin somewhat tinged; vomited this morning some rancid lemonade, which had been imprudently given him, and over-quantity of drinks taken during the night. Ordered arrow-root, &c. *Midday*. Much the same; doing very well. Dr. Rogers left the case, not deeming further attendance requisite.

29th. Passed a pretty good night, and feels much better; skin good; pulse 80; considerable appetite; desired claret and water, refused him; asked for soup; ordered some *very weak chicken water* made of a very young fowl, of which he was to take a very small portion; stools good; skin yellowish. *Evening*. Found skin too warm; pulse 92; tongue reddish along the edges; talks a little wildly; *soup* made too rich, and *took three times as much as allowed*. Ordered cooling drinks and ice to head; injections, and mustard bath to feet, &c.

30th. Passed a bad night; restless and delirious; tongue red; pulse 102, small and rather soft; extremities apt to become cold, and spleen enlarged. Ordered a blister to back, to spleen, and calves of legs; injection of oil every four hours; iced lemonade; ice to head; sinapisms to feet and hands occasionally. *Midday*. Much the same; slept a little; answers questions intelligibly, though talks wildly to himself; skin moist; pulse 108; eyes and skin very yellow, evidently and deeply jaundiced. *Night*. Same; passed a good stool: dozes occasionally.

October 1st.—Slept but little last night; pulse 108, and soft; edges of tongue very red, white on surface; abdomen rather distended.

Give two tea-spoonfuls of castor oil, with orders to repeat every three hours till passage. Continue treatment.

2d. Condition same; very deeply jaundiced; bowels free and somewhat bilious; continues delirious, and tendency to coma.

3d. Unaltered. Treatment continued. Died at night.

Remarks.—In this case the first twelve hours was lost, which was very important. On the 25th the local detractions of blood by the cups was very imperfect, therefore but little benefit resulted from them: notwithstanding these serious impediments, and the great alarm he felt throughout the case, here is an instance of a free liver, having *black vomit* and *black inky stools* on the *fourth day*—*surviving*: and it must be evident, from precedent and subsequent circumstances, that the *condition to form it* must have been made *previous* to the application of the leeches, and the *alteration must be ascribed to them*, it having been long proved by dissections and observations of our distinguished countryman, Dr. PHYSICK, in 1793, and corroborated by multiplied experience since, that black vomit depends upon a *secretory irritation* of the mucous membrane of the stomach, to be prevented by subduction of its excitement, as has been proved to me at least three times during the present epidemic; but this case not only *survived it*, but the entire condition was changed—tone of the stomach and bowels, and *their secretions*, in a great measure, restored; *bilious* and *natural stools* supervening, and in the opinion of one of the veterans of the profession, evidently getting over it. This continued several days, with constant proofs of amendment, and the *relapse* on the 29th, (for no one could call it any thing else,) was unquestionably produced by the *soup*, overtaking the enfeebled digestive power of an important organ—producing primarily gastro-duodenitis, and as a consequence, jaundice, and then cerebritis, and at a period when it was no longer safe to attempt to reduce local action by local depletion, with diminished power and prostrated forces.

These are all the cases my limits will permit me to set forth in detail. A synopsis of the whole is to be found in the following tables, which will fully sustain the claim to successful treatment.

Analysis of the principal Symptoms observed in Yellow Fever during the Epidemic at New Orleans in 1833, with the Treatment, Results, &c.

SYMPTOMS.

Epigastrium.		Vomiting.	Hiccough.	Thirst and desire for cold drinks.	Period of Return of Appetite.					
Painful.	Tense.				2d day.	3d day.	4th day.	5th day.	6th day.	8th day.
17	Nearly all.	Nearly all.*	4	Nearly all.	1	7	14	14	7	2

* Four had black vomit, of whom two recovered.

SYMPTOMS.

SYMPTOMS.																						
Tongue.		Eyes.		Expression.					Feces.			Intestines.		Skin.		Urine.		Uterine.				
Dry and red.	White, with red edges.	Yellowish.	Muddy, glassy, and injected.	Fierce.	Dull and stupid.	Frightful.	Despairing.	Indifferent.	Anxious.	Natural.	Natural throughout.	Bilious.	Disturbed by Medicine.	Constipation.	Diarrhoea.	Natural colour.	Yellowish.	Suppressed.	High-coloured.	Pregnant.	Nursing.	Appearance of menses during the attack.
6	Remaining No.	10	In all.	1	3	1	3	3	55	9	38	4	11	2	4	59	6	2*	Almost all.	2†	5†	2†

* In one of these the suppression was relieved on the third day, and the patient recovered.
† All these recovered.

SYMPTOMS.

Sleep.			Pains.				Delirious.
Bad.	Partial.	Good.	Head.	Back.	Limbs.	Great muscular soreness.	
35	6	10	66	60	60	1	10

GENERAL HISTORY.

Attack.		Period of Cessa- tion of Fever.			Period of Discharge.											
Sudden, without premonition.	With chill.	1st day.	2d day.	3d day.	2d day.	3d day.	4th day.	5th day.	6th day.	7th day.	8th day.	9th day.	10th day.	11th day.	15th day.	16th day.
3	26	5	38	10	4	10	14	14	10	4	4	2	2	1	1	1
																Longer periods.

TREATMENT.

BLOOD-LETTING.											OPENING REMEDIES.	
General.			Local.									
Once.	Twice.	Thrice.	Once.	Twice.	Thrice.	4 times.	5 times.	6 times.	7 times.	9 times.	Laxatives; gene- rally oil.	Enemata.
33	12	1	19	13	3	8	1	1	3	1	23	All.

The other remedies employed, were baths, hot and cold; cataplasms, ice, lemonade, and emollient drinks.

RESULTS.

Recovered, 69. Died, 6; of these, 1 died from imprudent and unauthorized use of the glyster-pipe by the nurse, after every appearance of recovery, see Case I. 1 died from hæmorrhage from the gums, in consequence of having taken a large dose of calomel before I was called, see Case IV. 1 died from want of proper attendance—no nurse; room over a nine-pin alley, the noise from which prevented his sleeping at a critical time. 1 from relapse, brought on by strong soup taken on the eighth day, see Case IX.

New Orleans, June, 1834.

ART. III. *Report of Cases treated in the Pennsylvania Hospital.* By
T. S. KIRKBRIDE, M. D. one of the Resident Physicians.

CASE I. *Fracture of the Skull with Depression.*—Thomas Wilson, æt. 46, labourer, received a blow upon the right side of his head from a heavy hand-spike, on the 1st of October, 1833, at 1 P. M. He was brought to the hospital one hour afterwards. When admitted was partially sensible, but unable to answer questions; skin cool; pulse weak; pupil contracted; had vomiting. The head was shaved, and a large effusion of blood found to exist under the scalp; a fracture was also detected in right parietal bone, with some depression. Sinapisms applied to extremities; external heat, and stimulating enema. At 3½ P. M. reâction commenced very slowly; soon after seemed disposed to sink into a state of insensibility, although at times very restless, and has spasmodic motions of the arms; temperature still cool. Cold applied to head; warmth continued to feet. At 5 P. M. reâction was so fully established, and his pulse had acquired so much strength that a vein was opened in his arm, and about 3x. of blood taken: was more quiet for a short time, but the state of insensibility into which he had for some time been falling continued to increase, and at 6½ P. M. he had stertorous breathing, with a full and labouring pulse; pupil still slightly contracted. V. S. 3xvj., producing little effect on pulse or respiration.

He was seen by Dr. BARTON at 7 o'clock, and a consultation of the surgeons of the house called immediately, but while preparations were making for operating, his respiration became still more laborious, pulse sank so as not to be felt at wrist, and he died at 7½ P. M.

Autopsy, fifteen hours after death.—*Head.* No external wound. Upon making an incision into the scalp, a large quantity of effused blood was found between it and the cranium. A quadrangular portion of bone nearly three inches in diameter, depressed, consisting principally of the anterior and inner part of the right parietal bone, and extending across the sagittal suture half an inch on the left; from this a fracture extended about two inches and a half into the frontal bone; a fissure separated at upper part one-fourth of an inch, extended over the left side of head, and could be traced to the base of the cranium. A fracture also ran posteriorly from the depressed portion of bone, commencing half an inch to the right of the sagittal suture, passing obliquely across it, till it met the lambdoidal. Three openings existed in the dura mater, one of which was large enough to ad-

mit the introduction of a finger; longitudinal sinus opened by a spicula of bone. About one gill of blood below dura mater; copious effusion of blood into the ventricles, and a large quantity, liquid and coagulated, at the base of the brain. Total quantity of blood effused beneath the cranium, $\frac{3}{4}$ xiv. On the left side of longitudinal sinus, and near the point at which the opening existed, the cerebrum was reduced to a soft mass to the depth of an inch and a quarter; other parts firm.

Other organs not examined.

CASE II. *Fracture of the Skull with Depression.*—Thomas Fox, æt. 30, labourer; admitted April 3d, 1834. While engaged in blasting rocks, a few hours before, he was injured by an explosion; he was alone, and is unable to state the cause of the accident or attending circumstances; he was stunned, and on recovering walked nearly half a mile before he received assistance; he also states that after he became sensible, was chilly and had vomiting.

A large portion of the scalp was turned off, and a portion of skull, about one and a half inches square, denuded of pericranium, on the inferior and middle part of right parietal bone; a fracture was discovered at this part one inch in extent, into which a piece of leather, apparently a part of the lining of his hat, had been driven; there was also a small portion of the bone slightly depressed, circular, and nearly one-fourth of an inch in diameter, and a cut in the forehead extending to the bone. The leather was removed from fissure, and as he complained of severe pain, Tr. opii, gtt. xl. was administered; wounded parts of scalp kept in apposition by simple dressings.

5th. Has slight fever, but little pain in head; purge given yesterday operated freely. R. Ant. tartar. gr. ij.; Aquæ, $\frac{3}{4}$ viiij. Ft. sol. S. $\frac{3}{4}$ ss. every two hours; low diet.

6th. Less tension of scalp; considerable ecchymosis about the face; upper part of scalp united; suppuration commencing; slight fever; head-ache slight; pupils natural; bowels open; pulse 84; slept well. Poultice scalp; continue sol. ant. tart.

7th. Last evening patient was restless; complained of pain in head; fever; pulse full and rather firm; wild expression of the eye; he was bled $\frac{3}{4}$ xv. which induced faintness; the solution of antimony has been suspended, having produced vomiting. Better this morning; pulse 84, soft; less thirst; skin natural temperature. R. Mist. neutral, $\frac{3}{4}$ ss. every two hours.

12th. Large purulent discharge from scalp; no head-ache; pulse rather weak; he sleeps well, and has improved diet.

17th. No unpleasant symptoms; poultice continued to scalp.

25th. For a day or two past has complained of head-ache, and inability to sleep at night; pulse rather quick but weak; tongue natural; no increased heat of surface; wounds of scalp have healed, excepting over exposed bone. Apply blister on back of neck, and keep it open with dressings of savin ointment.

30th. Head-ache much diminished; sleeps better; pulse 80, soft and regular; bowels kept open with sulph. magnes.

May 8th.—Blister kept open on back of neck; free discharge from scalp; no head-ache, or other unfavourable symptom.

18th. More tumefaction of scalp; pain externally; free discharge of pus; bone becoming loose. Continue poultice.

29th. A portion of cranium, including both tables, is nearly detached; patient occasionally has slight head-ache, which is generally removed by a brisk purge.

31st. The detached portion of cranium, about one inch square, was removed to-day, by cutting down upon the parts; dura mater beneath healthy; patient has no head-ache; pulse slow and soft; sleeps well.

June 1st.—Head-ache last night and slight fever; tongue furred. Ordered purge and mustard foot bath.

2d. No fever, nor head-ache; wound granulating.

20th. Patient has had no head-ache since last report; wound nearly healed; well in every other respect.

31st. Discharged.

CASE III. *Fracture of the Skull.*—William Northern, æt. 47, labourer; admitted April 23d, 1834, at 7 P. M. Is of intemperate habits; has generally enjoyed good health; was struck on the head by the crank of a crane, at which he was employed hoisting logs, about one hour previous to his admission into the hospital. The blow was received on the right side of the head, at the anterior inferior part of the os frontis, immediately over the orbit of the eye; was insensible for a few minutes after the accident; had no vomiting. When admitted, pulse was feeble and frequent; skin cool; rationality good; has a cut four and a half inches in length in scalp, which is turned off, exposing a considerable portion of the cranium, partly denuded of periosteum; a fracture by which the upper part of the orbit was forced down over the eye; a small, loose fragment was removed; there is also a cut half an inch long at external canthus, from which there is slight hæmorrhage; eye uninjured. The depressed portion of bone was elevated to nearly its natural position, and light dressings applied; patient complained of no pain, and rested well during the night.

24th. Without pain; pulse slow and regular, rather weak; tempera-

ture of surface natural; pupil not contracted; purge with magnes. sulph.; low diet.

25th, 8 A. M. Complains of chilliness; pulse feeble; pupil natural; medicine taken yesterday has not operated; increased restlessness. Repeat magnes. sulph.; hot applications to extremities. 7 P. M. Patient suddenly became convulsed and comatose at 1½ P. M.; pulse full and frequent; pupil nearly natural; strong flexion of arm on uninjured side during the attack. He was bled $\frac{3}{4}$ xx., and had cups applied to back of head, after which became sensible. At this time very restless; inclined to sleep; articulation indistinct; easily roused; pupils slightly dilated; left eye drawn strongly to internal canthus; resistance to efforts of extension of arms, but doubtful whether voluntary or involuntary; pulse frequent and weak; skin warm; bowels have been freely open. R. Ant. tart. gr. j.; Aquæ, $\frac{3}{4}$ vj. Ft. sol. S. $\frac{3}{4}$ ss. every hour; stimulating pediluvia. 11 P. M. Worse; pulse feeble, frequent, and irregular; restless; tossing about the bed; says he has no pain; respiration slightly stertorous; left eye fixed at internal canthus; right in natural position; answers questions, but not distinctly. Ordered cups to head; sinapisms to legs; continue sol. ant. tart.

26th, 9 A. M. Low, muttering delirium; increased restlessness; eyes as last reported, with more dilatation of pupil, and complete insensibility to light; surface of body, natural temperature. The separated fragments of bone were this morning removed, requiring only detachment from a small portion of scalp. Cold applications to head, and heat to extremities; respiration became more laborious; extremities cold; pulse imperceptible. Death at 4 P. M.

Autopsy, fifteen hours after death.—*Exterior.* Rigidity marked; fine muscular development; tumefaction of right wrist; irregular ecchymosis and tumefaction of right side of face; wound four and a half inches long, extending from near internal canthus, upwards and outwards; flap raised, exposing frontal bone for a distance of three inches; rough edge of bone extending from inner part of orbital ridge, half an inch upwards and one inch outward, and thence along middle of orbital plate, including space from which bone was removed, filled up with dark coagulum of blood.

Head. Dura mater opposite the seat of fracture, covered with a thick layer of dark coagulated blood, adhering strongly to the membrane, in the midst of which are two perforations, largest would admit a crow-quill; sinus empty. Dura mater much injected externally. Arachnoid, bright injection on side next to dura mater; great cavity contains a purulent cream-like liquid, easily removed by scraping,

and beneath arachnoid the anfractuositities are filled with the same liquid, which may have furnished that in great cavity. Pia mater, bright injection at anterior part and opposite temporal bone; large veins distended with blood. Arachnoid of dura mater, dull colour, semi-opaque; great cavity of arachnoid contains posteriorly about $\frac{3}{4}$ ss. of dark fluid blood. Cortical substance of right side, dark reddish colour; medullary much injected, consistence perfect. On anterior extremity in part corresponding to fracture, are three ecchymoses, largest size of a large pea, not extending beyond cortical substance, which is softened in ecchymosed part; beneath these ecchymoses is another in medullary part, a little larger than the others, with similar diminution of consistence; adjoining parts, as elsewhere, firm, but much injected; ventricles contain $\frac{3}{4}$ ss. of limpid serosity; central parts firm, not injected. *On left side*, cavity of arachnoid contains a little serum, no pus; moderate injection of pia mater; cortical substance, firm, ash colour; medullary much less injected than on right side; cerebellum firm, slightly injected.

Thorax. Strong adhesions on right side, less on left; lungs grayish, dotted with black; no trace of emphysema; no tubercles. Lower lobe of right more engorged than rest, friable; two calcareous, soft concretions near root of lower lobe, encysted. Bronchi not injected, polished, not dilated. *Heart*, medium size, pale, flaccid; coagulum in each cavity fibrinous; slight cartilaginous concretions in semilunar valves of aorta; some cartilaginous patches beneath lining membrane of aorta at the arch.

Abdomen.—*Stomach.* Contains half a pint of greenish and grumous liquid; great cul-de-sac torn in detaching it from spleen; mucous membrane scarcely exists in whole posterior face, especially of great cul-de-sac; other coats of consistence of half coagulated glue; transparent appearance. Anterior face, pale, dirty-yellow; consistence natural.—*Small intestines* contain some yellowish mucus; mucous membrane transparent; good consistence; less near extremity of ileum. Glands of Peyer reticulated, pale, a little elevated. Isolated follicles numerous in last two feet, but scarcely visible; mesenteric glands firm.—*Large intestine* empty; mucous membrane, pale, consistent.—*Spleen* reddish-brown, seven inches by four; soft, grumous.—*Liver* pale brown, larger than natural; no tubercles; gall-bladder distended.—*Kidneys* rather pale, firm, not granulated.

CASE IV. *Fracture of the Skull, &c.*—Stephen James, æt. 50, a respectable coloured man, residing in the lower part of the city, was severely injured during the riot on 13th of August, 1834, about 10 P. M. He was dragged from his bed into an adjoining yard, beaten and

left in a state of insensibility—owing to the state of alarm in his family he received no medical assistance until the following morning; he was reported to have lost a large quantity of blood during the night; had vomiting in morning; some blood in discharges from stomach. He is robust, temperate in his habits, and has always enjoyed good health.

14th. Admitted into the hospital at 7 A. M. He has several incisions on head, principally on superior and posterior part, extending down to and exposing a portion of cranium denuded of periosteum; parts are much swollen; no fracture or depression detected. Skin is cool and moist; pulse 124, feeble; pupils natural, with little sensibility to light; has not spoken since he was injured. Sinapisms to extremities; stimulating enema; and heat to surface generally. 10 A. M. Respiration slightly stertorous; pupils natural; pulse 120, feeble; restless; constant moaning; no vomiting. 1 P. M. Stertorous breathing increased; pulse 112, rather fuller, with an occasional intermission; skin warmer; more sensibility of pupil, a little contracted; some subsultus; restraint necessary to keep him in bed; has not been able to swallow since admission. 7 P. M. Skin hot; pulse 140, still feeble; no rigidity of extremities; swallows small portions of liquid with extreme difficulty; pupils a little dilated, do not contract when exposed to a strong light; respiration stertorous; tossing of the arms; no subsultus.

15th, 8 A. M. Very restless during the night; bowels freely open after enema last evening; appears to recognise his friends, but is unable to speak; no improvement in deglutition; pulse 136, some irregularity; skin warm; coughs occasionally, and discharges some blood; pupils nearly natural; less stertor.

16th. More quiet during the night; pulse is irregular and intermittent; pupils slightly contracted; strabismus; is able to swallow liquids.

17th. Very restless; no sleep; skin cool; pulse feeble and irregular; strabismus slight; deglutition improved.

20th. Since last report there has been some reaction, and he now swallows with little difficulty; speaks, but indistinctly; pulse fuller; pupils natural.

22d. Pulse again feeble; skin cool; restless; no rigidity; slight contraction of pupils.

23d. Pulse 132, very weak; skin cool; pupils more strongly contracted; restless; tossing his arms; can scarce articulate; during efforts to speak the mouth is drawn strongly to the right side.

24th. Pulse 140, irregular, excessively weak; extremities cold; inability to speak or swallow; rigidity of both arms and both legs,

nearly equal; slight distortion of mouth, variable. Death at 11 P. M.

Autopsy, 10 hours after death.—*Exterior.* Rigidity complete; slight emaciation; cuticle removed on legs and chest by sinapisms.

Head. On exterior, scalp offers at top of forehead, two whitish lines an inch long, one of which is easily separated by the finger, (cicatrices of two of the wounds;) on cranium are eight other incisions not united, from one to two inches in length; three of these incisions unite near the summit of occiput; another of them about two inches long is in the long diameter of skull on right temporal bone. The periosteum is detached beneath one of the incisions on summit of frontal bone, near middle line, in length of one inch and a few lines broad. Cellular tissue on whole ecchymosed and tumefied. On removing periosteum no depression discovered, but a long fissure, extending in a curved line from one temporal bone to the other. Upon removing the cranium a deposit of blood an inch and a half in diameter, and more than a line thick, was visible near the base of squamous portion of temporal bone; a line was traced by this same deposit on the outer surface of dura mater, irregular, but in most places several lines wide to the left side, where another deposit of blood, a little less than that on right, and anterior to it was found; dura mater not cut; fracture extended through both tables of the skull, which was of moderate thickness. *Arachnoid* containing about $\frac{3}{4}$ ij. limpid serum, part of which escaped on sawing the skull; *pia mater* infiltrated with serum, which caused an apparent thickness of the membranes, removed by pressing out the liquid; glands of Pacchioni very distinct, large as wheat grains. Beneath each temporal bone in spot corresponding to coagulum, exterior to dura mater, is a collection of black blood in the meshes of pia mater between the convolutions, larger in the right than left; on detaching the pia mater on right side, the finger passed into a softened portion of the brain; this softening contained in its centre a black coagulum, half an inch in diameter, surrounded by cerebral substance, reddish, and reduced to a pulpy state, with flakes of brain, but not distinct pus; the medullary substance surrounded by it was injected, of a slightly yellowish tinge; no trace of false membrane around this softening, which is circumscribed by the firm, cerebral substance. On the left side a coagulum and softening precisely similar to that on right, except that the left was not larger than a nutmeg, while that on the right was larger than a pigeon's egg. Substance of brain elsewhere firm. Ventricles containing $\frac{3}{4}$ ij. limpid serosity; choroid plexus pale. Base of brain contained $\frac{3}{4}$ iv. of serum; substance at base, cerebellum and pons firm;

moderate injection; longitudinal sinus empty; lateral containing liquid blood.—*Medulla spinalis.* Abundant serosity in arachnoid; substance firm, not injected.

Thorax.—*Right lung.* No adhesions except at posterior part of inferior lobe, which is covered with a layer of yellow, concrete lymph, one line thick, easily detached in long strips. At summit of lung are several tuberculous masses, size of large pea to that of hazelnut, softened, contained in cartilaginous cysts; gray granulations around these masses; in middle lobe are also a few scattered tubercles, size of a large pea, softened; none in lower lobe, which is aerated; vesicles not evidently enlarged; bronchia pale.—*Left lung.* No tubercles nor granulations; slight adhesions anteriorly; bronchi pale.—*Heart.* Moderate size; large coagulum in right ventricle; valves healthy; little serosity.

Abdomen.—*Stomach* contracted; mucous membrane dark slate colour, less intense in great cul-de-sac than elsewhere; moderately fine arborizations along small curvature. In great curvature are two rounded ulcerations, largest four lines in diameter, smallest two, pale, elevated edges, gray cellular bottom; consistence of membrane good.—*Small intestines* containing a greenish-yellow mucus; membrane in upper three-fourths very pale slate colour, not injected, firm. Glands of Peyer rare, pale, reticulated, only seen near the valve. Glands of Brunner rather numerous in last foot; no central point.—*Mesenteric glands* small, gray.—*Large intestine* in cœcum; membrane grayish, thin, strips fragile, three or four lines; rest of extent, membrane grayish, strips eight to twelve lines; contents liquid; glands not visible.—*Liver.* Dark brown, not broken, gorged with blood; a hard, whitish, rounded mass near the sharp edge without defined cyst; indistinct fibres, creaking under the scalpel; bile abundant.—*Spleen.* Very small; wrinkled two and a half inches by two; not tuberculous. Kidneys brown colour; firm.

For notes of the following case I am indebted to my friend and colleague, Dr. GERHARD.

CASE V. *Phrenitis, following an Injury of the Head.*—John Gallagher, a child, twelve years old, was playing on the roof of a three-storied house, from which he fell, on the afternoon of the 10th of August, 1834. At his entrance into the hospital, had a large ecchymosis with tumefaction of the eyelids of the right eye and parts covering the malar bone and temporal fossa; a fracture existed in both bones of both forearms about two inches from the wrist. Intellect clear, but much agitation, and complains of pain in the arms, which were dressed by the application of splints and compress. Until 15th, slight

increase of pulse and heat of skin; great restlessness; complains of pain in arms, constantly throwing them about; intelligence perfect, but very irritable, and great sensibility to impressions.

On 15th, after sleeping quietly, ($\frac{3}{8}$ ths gr. of morphia having been given during preceding day,) had great increase of heat, no chill remarked, but extreme stupor, lying without the least attention to surrounding impressions. At 8 P. M. found him in the following state: decubitus dorsal; eyes closed; arms lying by his side, not much tossing about; skin intensely hot; face flushed; pupils much and equally dilated; little contraction on exposure to light; sensibility generally augmented; cries on moving the limbs; sight appears nearly perfect; hearing good; quickly relapses into the state of stupor when aroused; pulse 140, quick, regular; respiration regular, 28 to 30; no cough; constipation. R. Iced water to head; Pulv. seidlitz, No. ij.

16th. Very restless during night; frequent cries as if in pain, alternating with stupor; some dilatation of pupils, and increase of sensibility; pulse 140, quick; head strongly bent backwards, cries if attempts are made to replace it; thirst great; no requests for food; face flushed; no rigidity; violent delirium, or during night cries; gives intelligible answers to questions if loud, and then relapses into a state of coma. V. S. ζ xviii. After bleeding face pale; less violent delirium; pulse much more feeble.

In evening pulse less feeble than in morning; some delirium; skin again hot. Twenty leeches behind ears; blister over scalp.

During the three days, 17th, 18th, and 19th, the following symptoms were observed. Delirium, quick, irregular, and noisy, with sometimes cries. On 19th, coma; pupils dilated during whole attack; not sensible to light on 18th or 19th. Strabismus 17th, 18th, and 19th. The inclination of the head backwards increased in strength, but there was no evident rigidity of the limbs; no distortion of the features, unless slightly puffing of the mouth; countenance anxious, flushed; no replies to questions after 18th; constipation relieved by enemata or Seidlitz powders; no vomiting. Deglutition impossible after 18th; meteorism of abdomen on 18th and 19th. Complained of pain in belly on 18th; pulse regular, very frequent, from 120 to 180.

Death 20th, at 9 A. M.

Autopsy, eight hours after death.—Dura mater distended; long coagulum in sinus; fracture with depression of both tables of os frontis on right side, just above the external angle of orbit; fracture extends through the orbital plate in its whole breadth; just above this fracture the dura mater is torn, and a coagulum of black blood an inch in breadth exists. Summit of convolutions compressed; arachnoid

dry; no serosity in pia mater, which is highly injected in its small vessels only; on the left side the pia mater presents a number of yellowish spots in the line of the vessels, not broader than from one to one and a half lines, and detached with the membrane; cortical substance gray-rosy; medullary moderately injected; consistence perfect; ventricles distended with about $\frac{3}{4}$ iv. of troubled serosity; central parts diffluent; walls of ventricles softened to creamy consistence in a depth of from one and a half to three lines, white, surrounding injection; choroid plexus pale.—*Base.* A layer of greenish-yellow lymph, from three-fourths to one and a half lines in thickness, covered the pons, the optic and olfactory nerves, the medulla oblongata, the fissures of Sylvius, and the lateral fissures, extending through the fissures of Sylvius to the upper part of the hemisphere, and existing in a slight degree on the inferior surface of the cerebellum. This substance was beneath the arachnoid, which has a glutinous feel, and contains hardly $\frac{3}{4}$ ss. of serosity. The substance had the following characters: inodorous, greenish-yellow, rather more consistence than pus, but easily broken by slight pressure without trace of granulations or other hard bodies. The cerebral substance of the base was of the natural consistence, except just below the substance described, where it was whitish and pulpy. Pons varolii and cerebellum firm.

Liver not fractured; gorged with blood; firm.

Other organs not examined.

CASE VI. *Wound of the Elbow-joint with Injured Spine.*—Thomas Paul, æt. 24, seaman; admitted April 26th, 1834. Is remarkably robust; has enjoyed good health, never had serious disease; clear of cough, &c.; lives freely. A short time previous to admission, fell from the foretop of a vessel, striking his arm upon a windlass, and producing a lacerated wound, communicating with the elbow-joint; a wound of scalp, two and a half inches long, and exposing a small portion of cranium and a severe contusion over the lumbar vertebra. He was insensible for a few minutes, but when he entered the hospital, had recovered entirely from that state; his pulse was 88, regular; skin natural; sensibility perfect; moved his extremities without difficulty. His arm was placed on a rectangular splint, with simple dressings to it and head.

27th. Has some fever; restlessness during the night, tongue white and furred, bowels not opened; suffers much pain. Ordered eight cups to loins; Magnes. sulph. $\frac{3}{4}$ j.; Mist. neutral, $\frac{3}{4}$ ss. every two hours; low diet.

28th. Less pain, but does not appear to move his lower extremities.
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ties with the same facility as yesterday; wound of elbow very painful; fever moderate; bowels freely open. Repeat cups to spine; poultice to arm.

29th. Sickness of stomach; swelling of arm, and indications of erysipelas; complains that he "cannot feel his legs," and is utterly unable to move them. Mist. efferves.; 50 leeches to arm.

30th. Paralysis of lower extremities complete; moves the uninjured arm, but to-day for the first time has complained of a numbness about it, and of its being "cramped;" inflammation about the joint unabated; less vomiting; head-ache. Treatment continued.

May 1st.—Was called to patient very early this morning; during the night his respiration had become seriously affected; when I saw him was panting and complaining that he "had no breath;" exceedingly anxious countenance; scarce able to articulate; pulse feeble and frequent; skin cool, covered with perspiration. Sinapisms were directed, and heat applied externally, but without effect; pulse gradually became imperceptible; body cold, bathed with perspiration; respiration more laborious. Death, 9 A. M.

Autopsy, twenty-six hours after death.—*Exterior.* Fine muscular development; ecchymosis of back; rigidity of lower extremities.

Head. Much blood on exterior of dura mater; longitudinal sinus full of half-coagulated blood; pia mater rather injected; large veins slightly distended. Arachnoid moist; no infiltration; easily detached. Glands of Pacchioni small. Cortical substance gray-ash; medullary rather more injected than usual, firm; central parts firm, white. Ventricles containing $\frac{3}{4}$ ss. of serum. Cerebellum firm, moderately injected.

Spine. Muscles opposite lower dorsal and lumbar vertebræ softened; fibres scarcely perceptible, infiltrated with blood and purulent liquid; no fracture of processes. On exterior of dura mater is a layer of half-coagulated dark blood, extending throughout all the dorsal and lumbar vertebræ. Arachnoid containing a moderate quantity of serum; pia mater slightly injected. Consistence of medulla good, except about lower part of dorsal vertebræ, in extent of one and a half inches, and in the last inch, where the medullary portion is a little yellowish, and rather less consistent than elsewhere.

Thorax. No adhesions; pleura contains $\frac{3}{4}$ j. of serosity.—*Lungs* gorged with blood, especially lower lobes; dark red externally and internally; no trace of hepatization or tubercles. Bronchi transparent, containing a little serum; bronchial glands firm, dark.—*Heart.* Not adherent, firm, medium size; aorta filled with blood, of dark viscid colour.

Abdomen.—*Stomach.* Containing $\frac{3}{4}$ ij. of greenish liquid of acid odour; mucous membrane of light slate colour, especially in pyloric half; some large arborizations near cardia; in posterior half of great cul-de-sac thickness a little diminished, (with paleness,) in irregular spots, and general diminution of consistence of all the coats; elsewhere consistence natural.—*Duodenum* grayish, not injected.—*Small intestine* not distended; contains a yellowish liquid; slate colour or pale externally; mucous membrane without the least injection, throughout of a pale or light slate colour, very faintly tinged in spots by the contents; consistence throughout natural. Glands of Peyer very apparent, very slightly elevated; isolated follicles visible, (size of millet-seed,) in last foot or two many with little central points.—*Mesenteric glands* firm, grayish, good size; one size of hazelnut, encysted and converted into a hard calcareous substance.—*Large intestine* contains a little liquid fæces; not distended; mucous membrane pale.—*Liver* large; containing much blood; adhesion one and a half inches square to diaphragm; firm; two substances not very distinct. Gall-bladder much distended by thick, viscid bile.—*Spleen* six inches long, soft, but texture preserved.—*Kidneys* firm; smooth externally; reddish-brown; membrane easily detached.—*Bladder* small; containing dark-coloured urine; mucous membrane pale.

CASE VII. *Abscess of the Lungs, &c. after Amputation.*—Charles Thompson, æt. 34, seaman, admitted April 19th, 1834. He states that when at sea, three weeks before his admission, he fell a considerable distance, and received an injury of the right knee; was quiet only a few days, and then commenced walking; that inflammation immediately came on, and has continued to increase; has suffered immensely with pain and constitutional symptoms; has never been very robust; is of an irritable temperament, and has lost a great deal of flesh since the occurrence of the accident.

When first admitted, knee was very much swollen; great heat and tenderness of every part; an ulcerated surface on its inner side half an inch in diameter, from which there is a very copious discharge of a yellowish serous fluid, interspersed with flakes of lymph, evidently from the cavity of the joint; has a quick, frequent pulse; anxious countenance; bad appetite; night sweats; sleeps badly; bowels irregular.

His limb was elevated on an inclined plane; leeches freely and frequently applied, with cold mucilages, and afterwards emollient poultices; his strength supported by a mild nutritious diet and tonics: under this treatment, the swelling and heat of knee diminished; the

discharge, however, became more purulent in appearance, and increased so much in quantity that upwards of a pint was frequently discharged at a single dressing; the hectic became more decided; emaciation increased, and his sufferings were so great, that after consultation, it was determined to amputate the limb, as offering the only chance for the preservation of his life.

The operation was performed by Dr. HARRIS, on the 14th of May, at 11 A. M. a few inches above the knee. Patient bore the operation well. Upon examining the knee-joint, it was found filled with purulent fluid; synovial membrane no where apparent; cartilages almost destroyed.—*Evening.* Pulse is 130, less frequent, and fuller than before the operation; skin moist and warm; suffers but little pain; in fine spirits.

15th. Doing well; little pain; slight spasms of the stump; pulse 112; tongue moist. Allowed chicken water in addition to gruel.

17th. Stump dressed this morning; looks well; a portion has united by adhesive inflammation; healthy suppuration commencing; rests well at night; bowels open yesterday. Diet increased.

19th. Did not rest well last night; had a chill in the evening; pulse quickened this morning; stump looks well; tongue moist; moderate discharge from an abscess of the thigh.

21st. Larger discharge than usual from abscess; little change in symptoms generally; appetite not very good; has full diet.

22d. Less discharge; had another chill this morning; pulse weak, 150; says he "feels well;" countenance pallid; had flushes of heat; tongue moist. In the evening had an attack of colic.

23d, *Morning.* Pulse 160; unusual restlessness and anxiety. At 10 A. M. a chill followed by fever and sweat.—*Evening.* More comfortable; bowels opened by enema; pulse 140, weak; skin moist, rather below the natural temperature. Wine in addition to diet.

24th. Very ill; another chill last night; pulse exceedingly frequent; complains of a sense of chilliness, although his surface is of natural temperature; has constant tremors; tongue moist; no tenderness detected on pressing any part of abdomen; respiration hurried; considerable anxiety and contracted appearance of the countenance. Has been taking Quin. sulph. gr. j. every two hours. Pulse, (8 P. M.) rather fuller, and less frequent; the quantity of pus has diminished, but to-day there was some bloody serum discharged from stump.

26th. Little change, and no improvement since last report; discharge darker, but not increased in quantity; tongue moist; pulse very frequent and feeble. Treatment continued.

27th. No chill yesterday, but had fever; slight chilliness this morning; no appetite; tongue moist; pulse at evening less frequent. Same treatment.

28th. Respiration still short and hurried; pulse as last reported; tongue moist; sweats less than for several days past; intelligence duller, and occasional delirium; discharge from stump small, and of bad aspect. Treatment continued.

29th. Respiration more laborious; pulse can scarce be felt at the wrist; has had tendency to diarrhoea; very restless during the night. Died at 9½ A. M.

Autopsy, twenty-five hours after death.—*Exterior.* Emaciation; rigidity of extremities, particularly the upper; no lividity.—*Stump.* Union had taken place in about two-thirds of its extent, leaving the middle portion where the bone protruded a little. Cutaneous flap adhered closely; union could be broken up by using considerable force, leaving drops of blood in corresponding points of the two surfaces; no pus or other substance between these flaps; at the inferior part is an abscess an inch in depth, containing a small quantity of pus, covered by a false membrane, of thickness of fine parchment. The *arteries* obliterated to the extent of near two inches, and containing dark coagulum above this point, which adhered closely to the sides of the vessels; up to groin internal coat yellowish, and all the tunics increased in thickness.—*Veins*, (traced as arteries from above downwards,) containing in upper part dark, grumous blood; obliterated by a firm, dark coagulum in lower two inches; one vein, leading from external part of hip, contains a mixture of dark, clotted blood and purulent liquid; coats yellowish, slightly thickened, like those of the others; in tracing this last vein is found an abscess, which communicates with the cavity of the hip-joint, extending three inches below the trochanter on external side of bone, which is in that space denuded of periosteum in extent of two inches, and around two-thirds of its shaft; the muscles and cellular substance around it infiltrated with purulent fluid; false membrane not distinct; joint opened above and externally; articular cartilages not affected; synovial membrane not injected; lymphatic glands of that groin size of almonds, double that of left; rather soft; no pus.—*Sciatic nerve*, adhering to skin of stump by button-shaped extremity larger than the rest of nerve; same dots on its extremity as elsewhere.

Head. Dura mater, quantity of blood externally very small; longitudinal sinus empty; serosity in arachnoid moderate; pia mater pale. Cortical substance pale-gray; medullary less injected than usual; consistence of both perfect. Central parts pale, firm. Ventricles con-

taining $\frac{3}{4}$ ss. of serum; plexus pale. Cerebrum pale, firm.—*Spinal marrow* pale and firm; no serosity in arachnoid.

Thorax. Left pleura containing upwards of a pint of purulent serosity, with flakes of coagulable lymph floating in it; lung in corresponding part of thoracic parietes covered by a thin, pultaceous false membrane, one-fourth of a line thick, easily detached; the pleura below it thickly dotted with red. Upon removing the false membrane, on the surface of the lung, a number of yellowish spots, from one to three lines in diameter, appear below the pleura. Upon removing the pleura the spots were seen to be formed of small collections of yellow, homogeneous pus, from the size of a small pea up to that of a large one; in the largest a thin, whitish membrane was found, not perceptible in smaller. These purulent collections were more numerous in lower than upper lobe, and much nearer the surface than centre of the lung, where two or three only were found. Bronchi pale; vessels empty; no appearance of pus, at least in the ramifications that could be traced. Tissue around the abscesses aerated; some places a little darker, but not hardened; the posterior half of the upper lobe heavy, still containing air, resisting pressure, friable, containing much serosity, (commencement of induration;) lower lobe containing less serosity, not indurated.—*Right lung.* This pleura contained $\frac{3}{4}$ viii. of purulent serosity; same false membrane covering posterior part of lung; purulent collections equally abundant as in left, of same size, and found beneath the pleura, and some in the centre of the parenchyma; same anatomical appearances; posterior half of the upper lobe indurated partially, as in the left; still containing much serosity and some air. Bronchi not thickened, pale; bronchial glands small; in neither lung, any traces of granulations or tubercles.—*Heart.* Moderate size, flabby; membrane pale; coagulum on right side; valves healthy; $\frac{3}{4}$ ss. of serum in pericardium.

Abdomen. Stomach distended, containing a thin, yellowish liquid; cardiac half, posterior part, pale and milky; exact line of demarcation between it and the pyloric half. In cardiac portion, numerous subcutaneous bluish vessels; mucous membrane softened, nearly gelatinous; other coats rather thickened, not evidently softened; pyloric half, pale slate colour covered with thick mucous, slightly mammillated along great curvature; strips, natural length, six to eight lines; anterior face of cardiac half, pale, not milky, without evident line of demarcation; strips rather friable, thin, three to four lines; pyloric half nearly as in posterior face.—*Small intestines.* Tunics thin, containing a yellowish mucus; mucous membrane throughout pale, thin every where, especially towards the valve, strips six to seven lines, not in-

creased towards its termination; glands of Peyer pale, reticulated, very little prominent; isolated glands not visible; mesenteric glands small.—*Large intestines* containing a small portion of hardened fæces; mucous membrane pale, consistence good.—*Liver* moderate size, brick-red, mottled with bluish spots externally; interior same red, interspersed with nuclei of dark brown, or in one or two instances of lighter red, than the rest of the texture; upon scraping these masses, they may be detached from the rest of the tissue, from their pulpy consistence, no distinct membrane around them; in centre of one or two, a yellowish spot, apparently pus, was observed, consistence generally good; bile abundant, greenish.—*Spleen* seven inches long, soft, dark, pulpy.—*Kidneys* smooth externally, *firm*; bladder contracted.

CASE VIII. *Phlebitis following the Operation for Varicose Veins.*—John Farrell, æt. 30, workman in a chemical laboratory, was the third in a series of operations for varicose veins, performed by Dr. Harris in the spring of 1834, and the only one attended by any unpleasant symptoms. The operation consisted in the removal of about three-fourths of an inch of the diseased vein, from the part that passes along the inner side of the knee.

He was admitted into the hospital on the 19th of April, having an ulcer on the right leg originally caused by an injury received about nine years ago. The ulcer has been frequently healed, but generally remained so but for a short time. The veins on that leg are distended, thickened and tortuous, from near the ankle to within a few inches of the groin; general health good. Operation performed on 27th; compress placed on upper and lower end of divided vein, and a tight roller applied from the foot up to the groin.

Patient did well till 30th, when he complained of pain about the knee, around which is some erysipelatous inflammation. A red line is also observed to extend upwards in the course of vein to within an inch or two of the groin, with evident thickening and tenderness on making pressure upon the part. Pulse 100, intermits every fifth beat; countenance anxious; tongue whitish; bowels not open. Ordered fifty leeches along the vein; purge with magnes. sulph.; cold mulilage to knee.

May 1st. Inflammation of vein has increased but little; patient has some fever; pulse 100, with fewer intermissions; bowels freely purged by medicine yesterday; erysipelas extending; patient much depressed; fifty leeches along vein, followed by emplastr. vesicat.; mist. neutral, $\overline{3}$ ss. q. 2. h.

2d. Blister drew well; erysipelas still extending upwards; patient

expresses himself as feeling more comfortable; skin less hot; pulse 90, without intermissions. Treatment continued.

3d. Better; pulse 92, soft, regular; skin warm; tongue cleaning; swelling and tenderness along course of vein diminished; rested well last night; less anxiety of countenance; slight extension of erysipelas. Same treatment.

5th. Nearly as last reported.

7th. Still some anxiety of countenance; swelling and tenderness along vein has nearly disappeared; erysipelas extended almost to groin, with increase of pain; pulse is feeble, and has occasional intermissions; tongue inclined to dryness; bowels open; muscular weakness considerable. Substitute linam. saponis. for mucilage; let him take quin. sulph. gr. ss. q. 2. h.

8th. Had a tolerable night; spirits still depressed; pulse fuller, soft, without intermission; less dryness of tongue; no extension of erysipelas. Remedies continued.

9th. Slight improvement; pulse 90, fuller and regular; great swelling in leg; slight return of appetite. Continue tonic; increase diet.

11th. Doing well; anxiety of countenance gone; pulse 80; tongue clean and moist; appetite good; sleeps well.

13th. No tenderness whatever in course of vein; slight swelling and redness continue in leg.

14th. Swelling subsiding rapidly; pulse slow and soft; bowels regular; good appetite.

18th. Ulcer on leg healed some days since; after subsidence of tenderness the roller was resumed on leg; has full diet; walks a little.

The patient continued to improve daily from the date of the last report, he gained flesh and strength, and was discharged well, June 1st.

ART. IV. *Observations on Nightmare*. By BLANCHARD FOSGATE,
M. D. of Auburn, N. Y.

NIGHTMARE and incubus are terms applied to a disease, deeply interesting both to the physician and to the patient. To the physician, because no satisfactory explanation of its phenomena has been given, all being mere speculation not founded on facts, neither supported by correct pathological reasoning: and to the sufferer, for it seizes him under circumstances frightful in themselves, occurring mostly at dead

of night when assistance is least easily obtained, and he being rendered totally helpless.

It makes its attack on the system in that stage of sleep when the voluntary power is suspended, and the imagination is free from those restraints imposed upon it in the state of wakefulness by our judgment. The mind roving through various scenes and producing effects, only experienced in dreams, and best described by reference to them, arrives at a condition in which fear is the most prominent emotion. The dreamer often believing himself shipwrecked, and left to the mercy of the winds and waves; or he is fast approaching the brink of an awful precipice, without the power to turn aside, and over which he must unavoidably fall; or he is pursued by wild beasts intent on devouring him, and through all he feels spell-bound and unable to help or defend himself: he struggles with all his power to be released from this frightful situation, but apparently to no purpose, until at last when he considers his destruction inevitable, a sudden bound frees him from his condition, and a dream is disclosed, which he believes to have been the cause of his suffering.

The effects produced on the system are very great. Immediately after recovery the pulse is a little quickened, a tremor of the abdominal muscles is experienced, and extreme lassitude is felt throughout the whole frame. A want of energy characterizes this state; and as the first shades of sleep again descend upon him, he very perceptibly feels the approach of the disease a second time, but under different circumstances. From a lack of energy to change his position and shake off the predisposition now formed, he remains quiet, perfectly conscious of the advancing symptoms which are gradually stealing over and strengthening upon him, until the power of voluntary motion is again suspended, and he is in a condition differing from the first, inasmuch as he is conscious of his situation. He now attempts to change his position, but without success, and it is only after repeated trials that he succeeds in accomplishing his object. The same lassitude continues as after the first attack, and the second will be followed by a third with the same symptoms, and the third by a fourth, and so on until his exertions are sufficient to throw off the disease, by producing an action throughout the whole voluntary muscular texture.

There is no particular position necessary for the occurrence of this disease. It makes its attack in any position that a person can lie, and the setting position is not exempt from its effects.

This disease may be divided into the first and second paroxysms,

or that which is accompanied by a dream, and the succeeding attacks in which consciousness is present.

In addition to the feelings described in the first paroxysm, there is the sensation of a load upon the chest, and some fancy it a monster attempting to suffocate them. From this paroxysm very little information can be obtained, the person on awaking attributes all his sufferings to the dream which he considers the cause of his distress.

It is by attending strictly to the phenomena of the succeeding attacks that a knowledge of the pathology of the disease can be obtained. In these attacks many faculties of the mind are active and restrained to their proper course by the judgment. This is displayed in the exertion to move one part of the body and then another alternately, knowing if we succeed relief will be obtained. Neither is the memory dormant, for when we have been told that some of the senses are not impaired, and that we can exercise certain muscles, we are sure to make the trial. A person labouring under the second paroxysm, if the room be sufficiently light, can see whatever comes directly in front of him; he can hear the breathing of his bed-fellow, and is conscious of conversation when it takes place in his presence; he has the sense of touch, for he is aware of his contact with the bed-clothes, and also of irregularities in their position under him; he can move his under jaw with ease perpendicularly, but has no power to produce a lateral motion; he knows that he breathes but with much difficulty; he has the power of natural voice, but not of speech, and volition is perfect, but her organs are not obedient to her mandates.

These are the facts from which we are to determine its pathological character, and upon which we are to build our hope of success in removing the obscurity hitherto surrounding the location and cause of this disease.

The remote causes of this affection are violent mental agitation—fear—also great fatigue of body, and in truth whatever wearies the mind or body beyond their healthy endurance. But the most prolific cause is overloading the stomach before retiring to rest. The proximate cause consists in one part of the system requiring a greater amount of nervous power than is naturally appropriated to it, and as the extremities of the nerves cannot produce the deficiency, this extra quantity of nervous influence must be supplied from some other part, consequently the part from which the deficiency is obtained is left in an unnatural condition, and thus results this affection.

I will here state that I consider this disease to be purely nervous, and that the attendant dyspnœa and congestion are effects consequent

upon it, and not the cause as has been believed and supported by pathologists. But before I proceed further, I would remark that the nervous texture is subject to the strongest anomalies connected with the human system, and that its various uses are continually merging into light, and that previous to the late discoveries of distinct functions connected with different filaments, and the regularity of the origin of each set of nerves, and that their qualities depend upon the part from which they are derived, the subject was enveloped in comparative obscurity. It is by carefully regarding these late discoveries in connexion with the phenomena presented by the disease, that its pathology can be determined.

The anterior column of the spinal marrow and the nerves arising therefrom, are the seat of incubus. This being the case, the nerves of feeling arising from the posterior column of respiration, arising from the lateral column of vision and hearing, originating from the brain and the brain itself, are not involved in the disease. We are now able to account for its various phenomena.

The faculty of the mind in reasoning, the active state of the memory and volition are qualifications belonging exclusively to the brain, and are not the subjects of this disease.

The sense of feeling is the peculiar property of the filaments originating in the posterior column of the spinal marrow, and therefore is not operated upon by this affection.

The act of respiration is continued, but somewhat impaired, being very laborious. The muscles performing this operation are supplied with three sets of nerves all differing in their functions; one set from the anterior column being the nerves of voluntary motion, and combined with another set from the posterior column conveying sensation, and a third set from the lateral column being those of respiration. The first set which is the seat of the disease may be regarded as the cause of the dyspnœa. The process of breathing is effected by the nerves of respiration in conjunction with those of volition, the first not being sufficient to the perfect performance of this office without the coöperation of the last. If from any cause the voluntary muscular action is suspended, the motion of the thorax is diminished, and an intolerable sense of pressure and suffocation is the result. From this circumstance the name of the disease originated, (*incubus*, from the Latin, signifying one who lies upon.) The tremulous motion experienced in the abdominal muscles after the paroxysm I conceive to be caused by an irregular return of nervous influence to them.

All the muscles of the face are subject to the will, but are unaffected by the disease, and the countenance expresses great anxiety.

These muscles with many of the neck are supplied by the portio dura, which is a nerve of respiration, expression, and volition in the muscles to which it is distributed. This accounts for our being able to move the lower jaw in a perpendicular, but not in a lateral direction. The muscles of the face and throat being competent to produce this motion without the assistance of those of mastication, these latter being supplied with a branch from the fifth pair, and of these muscles the pterygoideus externus is that which causes the lateral movement. Over these muscles of the jaw we have no controul.

To account for the faculty we possess of seeing objects that are in a line perpendicular to the face during the paroxysm, and only those in that direction, require our attention to the functions of the various parts of which the organ of vision is composed. And here I shall again take advantage of the discoveries of Mr. CHARLES BELL, in the physiology of the nervous texture.

It will be readily seen that as the optic nerve arises from the brain, its function cannot be impaired; but when we consider that the situation of the globus oculi during sleep excludes the light, both from the elevated position of the pupil and the closure of the palpebra, and in addition to these the inactive condition of the voluntary muscles, during the paroxysm of incubus, we are perplexed to solve the problem.

The muscles of the eyelids are supplied with nervous twigs from the portio dura, and hence, are not under the influence of the disease. But how shall we account for the phenomena of vision, when it is known that the pupil is raised above the margin of the elevated lid? The ball rises from the relaxation of the superior oblique, and this muscle is furnished with a distinct nerve, which arises from the summit of the column that originates the nerves of respiration, consequently the disease does not affect this muscle. Now, all the motions of the superior palpebra are accompanied with an opposite movement of the superior oblique, as when the lid falls the eyeball rolls upwards, and vice versa. These actions are attendant upon each other, and are both voluntary and involuntary. The nerves of respiration endow their muscles with this double quality. But these movements only open the eye and bring the pupil in the most anterior direction, and further command over this organ they have none. The recti muscles give the various directions to the eye, they receive their nerves from the motor division, and are purely for voluntary motion.

The sense of hearing is conveyed to the sensorium by the portio mollis, a nerve originating from the brain. But the function of this

apparatus would avail nothing without the action of the muscles connected with the internal structure of the ear. These muscles are furnished with branches from the fifth and seventh pair of nerves, and as the seventh pair are nerves of voluntary muscular motion to the face and neck, we may safely conclude, that the same influence is exerted on these muscles, producing the necessary action for conveying sounds.

The larynx receives its nerves in four branches from the par vagum, which is the principal nerve of respiration, and by these we are endowed with natural voice, which we are capable of exercising when under the influence of this disease; but of the faculty of speech we are deprived, the tongue being furnished with its nerves of voluntary motion from the anterior column of the spinal marrow being the twelfth pair of Mr. Charles Bell.

The action of the heart continues. This centre of the circulation so necessary to the continuance of life in every condition, is supplied with branches from the par vagum, and when its functions are deranged in this disease, it is from sympathy with the lungs. The motions of the heart are less under the influence of the brain than the lungs are, and it becomes disturbed, not from its dependance upon the brain, but from its association with respiration; and I have before stated, the derangement of respiration is caused by a suppression of nervous influence to the voluntary muscles of the thorax and abdomen.

Rest in general, renders the healthy pulse slower, but when the stomach is oppressed with a heavy meal, and the person falls asleep, the pulse becomes much quickened. As the powers of volition subside, that of sensorial action increases, and the action of the heart and arteries are augmented by their consent with the aggravated operation of the stomach. This being the case, incubus cannot be the effect of stagnation of the blood, for it invariably occurs under some extra irritation.

The theory of this disease based on congestion is entirely hypothetical. The symptoms indicating this state of the vascular system are neither sufficiently numerous nor well marked, to have any weight in fixing it as the proximate cause. What congestion there may be is more easily accounted for as an effect, than as a cause of this disease.

Incubus differs from coma, inasmuch as in the latter there is neither consciousness nor volition; and in asphyxia consciousness is lost, volition is suspended, and there are no perceptible respiratory or arterial actions. There is no suspension of volition during the paroxysm

of nightmare, for the endeavours of the victim to be liberated from his sufferings are very active. It differs from revery in being intercepted by the action of the voluntary muscles, produced either by the will, or by the application of external force. After a paroxysm of nightmare, we remember distinctly our ideas and sensations, but on recovery from a fit of revery, we have no recollection of what passed during its continuance. It is a blank in our conscious existence.

It is my firm opinion that death never is an effect of this disease, because, when the painful sensation acquires a certain degree of severity, the voluntary power will come into action and the disease ends. And we know from experiment that motion intercepts its progress, and that the voluntary muscles universally come into action previous to dissolution, unless it supervenes upon typhus fever where the irritability of the system is worn out, or upon the effect of electricity, or the exhibition of some of the virulent poisons, as hydrocyanic acid, and as before stated, this action of the voluntary muscles ends the complaint, or in other words, the disease destroys itself.

The course of treatment to be pursued in this affection, is prophylactic. The principal indication is to keep the nervous influence as equally balanced as possible. This is to be accomplished by preventing extra excitement in the thoracic or abdominal viscera. Food should not be taken in large quantities immediately before retiring to rest, because when the stomach is engorged it requires under all circumstances a greater amount of nervous influence than is appropriated to its natural action of digestion, but more particularly in the state of sleep, for then digestion proceeds more rapidly, and the action of the voluntary organs having ceased, the whole current of nervous power expended on them in their state of action, is drawn to the stomach with so much avidity that they are left without a sufficient amount to be acted upon by the will.

To those habitually afflicted with this malady, I would recommend an alarm watch, set to awake them at short intervals, and kept at such a distance from their bed, as to oblige them to leave it whenever it require resetting. The voluntary action thus produced will be sufficient to equalize the nervous influence. For in the proportion that the action of the voluntary powers return, that of the digestive organs decrease.

In conclusion, the disease is purely nervous: secondly, it is consequent upon a deficiency of nervous influence in one part of the system, occasioned by a greater demand for it in another part; and last-

ly, is confined to that division of the nervous texture designed entirely for voluntary motion, leaving all other functions of the organization in their normal condition.

Auburn, Cayuga County, N. Y. April 16th, 1834.

[The following extract of a letter from the author of the preceding article to the editor, deserves to be quoted, as it shows the author to be himself a sufferer from the affection he describes:—"My views of the disease have been drawn from attentive observation of its phenomena, having advanced only such symptoms as have been experienced by myself. My opportunities for so doing have been more abundant than I could have desired. I have been more or less the subject of this affection since my earliest remembrance, and it has at all times engaged my most earnest attention."—ED.]

ART. V. *Pneumonia of Children*. By W. W. GERHARD, M. D.
[Part 2d.]

THE analysis of the forty cases of pneumonia occurring in children between the ages of six and fifteen years, shows that this affection in children of the ages just mentioned is characterized by bronchial respiration, crepitus rhonchus, flat sound on percussion, fever, cough, &c.; in short, the symptoms are precisely similar to those of the pneumonia of adults. The disease has an origin marked by rather abrupt appearance of the symptoms, it has a definite duration, and in the large majority of cases terminates by the recovery of health. I have now to pursue the same method of analysis, and examine the observations of children between the age of two and six years. The earliest period at which they are received at the Children's Hospital of Paris is two years, and I have therefore but a small number of observations relative to infants.

I excluded from the first series all cases in which the affection of the lungs was evidently consecutive to another disease, such as measles, small-pox, or tubercles if sufficiently advanced to furnish certain indications of their presence. This second series was much less easily distinguished from the cases in which pneumonia is a secondary lesion, and does not present the same broad line of separation as the inflammation of the lungs in older children. The want of characters by which to designate at the first glance the cases of supposed idiopa-

thic pneumonia in young children, is in strong contrast with the facility of diagnosis in the inflammations of the lungs at an age a little more advanced.

I have selected from the observations I collected at the Children's Hospital, sixteen cases of pneumonia occurring between the ages of two and six years, in which the disease was the least clearly dependent upon an antecedent affection. Of these sixteen cases, twelve terminated fatally, and four recovered; a result very different from that obtained in older children in whom but one-fortieth of the cases terminated fatally, instead of the immense mortality of three-fourths which was observed in the second series. Of course I do not mean that such would be the general ratio, or that such is the average result even amongst the poor of Paris, but that, of the children sufficiently ill to be admitted into the Children's Hospital, three-fourths of those who seemed attacked with pneumonia, and whose age was less than six years died. The mortality of this series is not peculiar to the disease in question, a large majority of young children affected with different diseases die at the Children's Hospital. The following cases are examples.

CASE. Eugenie, æt. three years, entered June 17th, 1833, into the girl's wards. Her parents, (intelligent,) gave the following details. Born in the country, but brought to her parents at Paris eight months ago, since that time she is weak, cannot walk, irritable temperament. A fortnight before her entrance she began to cough; heat of skin some days afterwards; no vomiting; diarrhœa of three or four discharges daily; appetite until last two days; thirst great, asking for drink, but frequently refusing it afterwards when presented to her; complains of pain in the head.

18th. Present state.—Hair fair; skin clear; eyes gray; moderate embonpoint; lips thin, rosy; nostrils in motion; decubitus dorsal; tranquil; respiration high, forty per minute; cough rare; tongue reddish, moist at edges; abdomen yielding, tender at the umbilicus only. "Four leeches to the chest; demulcents."

19th. Skin hot; diarrhœa abundant during the night; thirst intense; face injected; some dilatation of the nostrils; stupor; acute cries when disturbed; respiration high, fifty to sixty; tongue and abdomen as before.

20th. Stupor; ill humour if disturbed; some heat of skin and thirst, but she refuses with disgust the cup when offered to her; pulse 145; respiration fifty, irregular; auscultation practicable for first time; percussion nearly flat in whole posterior part of the right side, and in the axilla sonorous anteriorly, and in the whole of the left side; res-

piration on right side anteriorly little expansive; inspiration and expiration nearly equally distinct; same characters posteriorly; no rhonchus; respiration on left side expansive, anteriorly and posteriorly without rhonchus or expiration. Syrup of gum; cataplasma to chest; milk.

On the 21st the inspiration in the posterior part of the thorax was blowing on the two sides without distinct expiration; anteriorly expansive on the left side; a little blowing on the right; percussion sonorous on both sides anteriorly; obscure posteriorly on the right side; moderately sonorous on the left.

On the 22d great sonoriety on percussion anteriorly on both sides; very obscure sound posteriorly, extending to the axilla on the right side; strong bronchial or tubal respiration in the upper two-thirds of the posterior part of both lungs; more marked in the right than the left; both inspiration and expiration tubal, the latter sometimes wanting, but when heard even more blowing than the inspiration; inferiorly, blowing inspiration with mucous rhonchus; no expiration; anteriorly, respiration vesicular on both sides, but feeble on the right and mixed with sonorous rhonchus; bronchophony, (tubal,) in the upper posterior part of both lungs.

Auscultation repeated on the 23d and 24th with no change except greater feebleness of the respiration posteriorly.

26th. Bronchial respiration again louder, very tubal on both sides posteriorly; the face was flushed at first, afterwards pale; lips red, and nostrils always in strong dilatation. On the 24th on each cheek there was an eruption of very small, pale-red, irregular spots; the eruption was still very pale on the 25th, a little more distinct on the 26th, on the face, but without a more determinate character, and not visible on the rest of the body.

The eyes were natural until the 24th, when they were injected and secreting a puriform liquid, which continued; features altered on the 25th; skin hot, dry generally, but in full perspiration on the 23d and 24th. Cough during the whole disease, at first dry, afterwards loose and mucous; respiration always high, frequently irregular, from forty to eighty inspirations per minute; voice and deglutition natural; decubitus always dorsal; pulse except the last day small, quick, from 130 to 140 per minute, sometimes irregular; tongue reddish at edges, grayish at centre, but never dry or brownish; anorexia complete; no vomiting observed; thirst always intense; diarrhœa during the whole disease abundant; on the 24th discharge of two or three lumbrici in the stools; abdomen yielding, and not distended at first, then retract-

ed and finally a little distended with gas; never evidently tender on pressure.—Treatment. Syrup of gum; emollient cataplasms to chest and abdomen; potion of ether and Corsican moss after the discharge of the worms; the white decoction, (gelatinous decoction,) in the last days of the disease.

27th. Face very pale; lips dark red; nostrils strongly dilated; intelligence appears perfect; features haggard; agitation, throwing her arms from beneath the bed-clothes; decubitus more listless; respiration 70 to 75 per minute; pulse impossible to count, between 150 and 200, very feeble but regular; cough feeble, provoked by the effort of drinking, which makes her reject abruptly the drinks offered to her; heat moderate, moist; tongue thick, reddish; thirst intense; diarrhœa abundant; percussion flat on the anterior part of the right side, sonorous on the left; respiration tubal on the right, expansive and loud on the left; no auscultation practicable posteriorly. Death took place the same evening.

Autopsy the 29th, forty hours after death.—Abdomen greenish, distended with gas; slight œdema of the lower extremities.

Head. Abundant liquid blood on the exterior of the dura mater; small fibrinous coagulum in the longitudinal sinus; some serosity in the cavity of the arachnoid, but little beneath it. Large sinuses of the pia mater generally distended, especially in the posterior part. Cortical substance rather violet; medullary a little more injected than usual. Ventricles contain a tea-spoonful of serosity; central parts white and firm; consistence of whole brain perfect; cerebellum, medulla oblongata, and pons varolii firm, similar in colour to the cerebrum.

Thorax.—*Pleuræ* not adherent; each containing from one to two ounces of reddish serosity.—*Right lung* externally of a uniform violet-brown colour, except just along the anterior border of the upper lobe, where the colour is less intense. A few vesicles in this border still contained air, but the lung in all the rest of its extent was hard; not floating in water; resisting the pressure of the finger; containing no air except a few bubbles, which may be forced from a few grayish points; smooth incision, marked with the whitish vessels and bronchia; not granulated; of a liver-brown colour. Bronchia not thickened nor dilated; containing some yellowish mucosity.—*Left lung.* Upper lobe offers anteriorly rounded elevations, owing to the dilatation of the vesicles in some of the lobules; posteriorly the pulmonary tissue is hard and reddish-brown in a mass the size of a hazelnut; inferior lobe in its whole extent impermeable to the air, dark red; in

all respects similar to the inferior lobe of the right lung. Bronchia of the lower lobe as in the right lung; in the upper they are nearly without mucus and more polished. Bronchial glands violet, large, not tuberculous. Pericardium containing a little reddish serosity. Heart of ordinary size; fibrinous coagulum in each side, firm; red colour of its internal surface as well as of that of the aorta.

Abdomen. Stomach slightly contracted, containing a whitish, viscous mucus; anterior face pale, yellowish-gray, rosy in the great tuberosity, smooth, not mammillated, offering numerous little depressions regularly rounded, the largest half a line in diameter, without redness or elevation of the edges; mucous membrane not entirely destroyed. Posterior face of a tolerably bright red in its cardiac half, from very numerous vascular arborizations; the pyloric half is of the same colour as the anterior face. Slight mammillation along the middle of the small curvature. Thickness of the mucous coat natural; consistence perfect; strips four or five lines in the great tuberosity, six to nine on the faces, and twelve or fourteen in the small curvature.—*Small intestine.* Containing a greenish-yellow mucus, and five or six lumbrici; mucous membrane tinged by the contents in the upper third; strips five to seven lines, easily detached. In the middle third the colour is the same, with some fine vascular arborizations in patches, one to three inches long; strips seven to nine lines long. In the last third mucous membrane pale, of good consistence. Glands of Peyer pale, reticulated, slightly elevated, except the last five or six, which are of an obscure red colour; rather more elevated than usual; the orifices of their follicles not visible, but not ulcerated; the subjacent tissue pale, not thickened. Isolated follicles visible only in the last foot of the intestine; nearly all with a central point and flattened.—*Mesenteric glands.* Size of a grain of maize, violet-coloured, moderately firm; those near the extremity of the intestine rather larger.—*Large intestine.* Contracted, containing some yellowish mucus; cæcum and ascending colon pale, except some sub-mucous vessels; follicles numerous, with the usual central point; strips five to seven lines. Mucous membrane of the transverse colon, as well as in the sigmoid flexure in general, pale, but marbled with some longitudinal patches of bright, dotted redness; strips four to five lines. Inferiorly, membrane pale, but of good consistence; strips seven to ten lines. Slight thickening of the mucous membrane in the superior half of the colon.—*Liver* of a brownish-lead colour, both externally and internally; two substances not distinct; incision smooth, yielding little blood; not fatty. Bile greenish, not abundant.—*Spleen*

two inches long, one and a half broad, reddish-brown, firm.—*Kidneys* rather pale, smooth externally, firm.—*Bladder* contracted.—*Uterus* violet-coloured, firm.

I have preferred giving this observation in great detail, as an example of the most perfect kind of the lobular pneumonia. The whole of the right lung, except a few vesicles along the anterior border, was utterly unfit for respiration; hard, smooth, and reddish-brown: the same was true of the inferior lobe of the left, and of a portion of its upper lobe. The original character of this lesion, which at first appeared as hardened, detached lobules, which afterwards unite together, was evident only in the superior lobe of the left lung; the other portions of the pulmonary parenchyma had become entirely impermeable to the air. Although the induration of the pulmonary parenchyma was no longer confined to detached lobules, it still differed very much from the ordinary pneumonia of adults: instead of the granulated, irregular surface, the indurated lung was very smooth and shining; its colour was rather bluish instead of the deep red which characterizes the pneumonia of the adult. The term hepatization is still applicable to the induration of the lungs of young children, but it is to the bluish, smooth liver of subjects in very early life, not of adults, that the lung must be compared. The hardness of the lung was remarkable; the lobulated induration is never so friable as the hepatized lung of an adult, but it is in general rather less resistant than in the present instance. The bronchia are not obliterated, but only compressed, so that the scissors could be easily forced through them; nor did they offer the redness and thickening almost always observed in the bronchia of an inflamed lung in an adult. The pleuræ were not apparently altered. The other viscera presented very slight traces of disease.

Passing from the anatomical appearances of the case to the symptoms, we find that the cough began a fortnight before her entrance, the other symptoms commenced at various dates, which were imperfectly ascertained. On the 24th, there was a distinct though pale eruption of measles, which was possibly the latent cause of the pulmonary induration, at least the frequent coincidence of the pectoral affection with the first appearance of measles, or even before their development renders this supposition extremely probable; the case is not a clearly marked idiopathic affection of the lungs. The child was also feeble, and the symptoms of the affection of the lungs were at first confounded with other phenomena. The local signs of the induration of the lungs were clear; respiration very high, from forty to

seventy inspirations per minute; obscurity on percussion, and afterwards flat sound on the affected side, corresponding to the degree of induration; mucous rhonchus; then an obscure blowing inspiration, a little later strong expiration, and finally distinct tubal respiration, or the most intense degree of bronchial respiration. The tubal respiration did not exist in the inferior third of the lung, although the induration extended to that part, but the inspiration was here blowing and marked by mucous rhonchus: the absence of the tubal expiration near the base of the lung probably depends on the anatomical difference in the distribution of the bronchia, which are smaller at the base of the lung, and almost always obliterated by the induration of the pulmonary tissue. The obscurity on percussion existed before the bronchial respiration; this is usually the case in lobular pneumonia, and percussion generally indicates the existence of the disease at an earlier period than auscultation. There was of course no expectoration. The abdominal symptoms were thirst, anorexia, vomiting and diarrhœa; there was but little alteration of the alimentary canal to account for these disordered functions.

Frequently the lobular pneumonia occurs in a child enfeebled by various affections, and at the time affected with a catarrh of some duration; a remarkable instance was furnished by the following case.

Observation.—Duplay, æt. 5; this boy was in the ward appropriated to diseases of the skin, his disease was a chronic œzema on the face and on a large part of all the limbs. On the 9th of November, 1832, the eruption presented the usual characters, (thin scales on a reddish or nearly a brown ground;) frequent but loose cough; no diarrhœa. Barley water; baths of soap and water.

12th. Cough continues; eruption has not changed in character. Julep with syrup of poppies; emollient lotions; Goulard's cerate to be applied.

15th. On passing by the bed of the patient I was struck by the extreme dilatation of the nostrils and evident difficulty of the respiration, one hundred and eight inspirations per minute, irregular; pulse 150, quick, very irregular; strong bronchial respiration at the posterior part of both lungs. Two cups to the base of the chest; gum potion; sinapisms to legs; blisters to feet and legs.

From the 15th to the 17th the pulse increased in frequency to nearly two hundred per minute; respiration 94; coma extreme; oppression; face very red, even purple last evening; nostrils in motion; mouth closed; cough rare. Continue potion.

18th. Profound stupor; skin dry, rather warm; respiration very

irregular, seventy to eighty per minute; pulse 160, rather irregular; abdomen retracted, grimaces if pressure be made upon it; cough stifled. Nitro-muriatic acid in poultices to feet; gum linctus.

Death in the night of 18th to 19th.

Autopsy.—*Exterior.* Little lividity; skin in several points offering brownish crusts; in others thin scales.

Thorax. *Pleura* not adherent.—*Left lung.* The whole inferior lobe and the posterior four-fifths of the upper lobe were hepatized, the cut surface was smooth, nearly homogeneous in appearance, not granulated, hard, of dark red colour, with the whitish vessels visible in the mass; fragments of the lung sink in water; the anterior border of the upper lobe is grayish, and permeable to the air.—*Right lung* hepatized in the whole of the lower lobe, which is similar to the lower lobe of the left; upper and middle lobes hepatized in their posterior half, grayish, and containing air in the anterior portion in which are some dark red masses formed by the induration of isolated lobules, which contract strongly with the permeable gray portions of the lung; bronchia violet colour, containing some mucus; no tubercles in the lungs, but the bronchial glands contain some tuberculous matter.—*Heart* at least twice the size of the fist of the child; a little lemon-coloured serosity in the pericardium; right ventricle distended by blood; right auricle by an enormous fibrinous coagulum; some coagula, and a very large quantity of curdled blood in the left cavities; walls of the heart of little more than the usual thickness; that of the left ventricle is three lines at its middle part; aorta pale.

Neck. Pharynx, trachea and larynx, pale.

Abdomen.—*Stomach* contracted, containing a little mucus, offering numerous rugæ, which are of a bright dotted redness, especially in the pyloric portion; slight mammillation in the pyloric fourth; general colour of the mucous membrane pale, orange-red; consistence perfect, but thickness a little greater than usual.—*Small intestine* containing a yellow and not abundant liquid near the valve; mucous membrane generally of a dark reddish colour from numerous arborizations in the upper two-thirds; the redness extends to the glands of Peyer, which are neither thickened nor ulcerated, and retain the normal reticular aspect; a few isolated follicles near the valve, when the mucous membrane becomes more pale; consistence perfect throughout the whole length.—*Mesenteric glands* grayish and normal.—*Large intestine* containing some greenish fæcal matter, contracted; numerous arborizations through its whole extent; moderate softening and some thickening of the mucous membrane; strips at most six to eight

lines long, but rather more in the rectum.—*Liver* containing much blood; gall-bladder not distended; bile greenish.—*Spleen* and *kidneys* firm.

Head. Moderate quantity of blood exterior to the dura mater; little serosity in the cavity of the arachnoid, or below this membrane; vessels of the pia mater gorged with blood; cortical substance dark gray colour; medullary much dotted with blood; one drachm of limpid serosity in the two lateral ventricles.

The preceding observation furnishes an example of lobular induration occurring suddenly in a child enfeebled by a chronic disease of the skin, and affected with bronchitis and diarrhœa before the development of the induration of the lungs. The latter affection is very frequently preceded by diarrhœa, which often continues some weeks before the appearance of the bronchitis, and still longer before the induration of the lungs has attained a sufficient extent to be recognised by the usual indications. In such cases the secondary nature of the lesion in question becomes evident.

These two examples are given in detail as specimens of the disease; some of the most important characters of the affection are noticed in the following table, which contains a short analysis of all the cases.* The cases numbered from one to eight inclusive relate to boys, the others to girls. In the first column the age of the child, the month in which he was brought to the hospital, and the previous state of health are mentioned. The duration, when ascertained with tolerable probability, is given in the second column; the commencement of the disease is dated from the existence of the cough, which symptom was the most certain indication of an affection of the lungs which terminated in induration, and was apparently the first period of this disease. The third column refers to the parts of the pulmonary organs which were impermeable to the air. The fourth indicates the presence or absence of an inflammation of the pleuræ, as shown by the presence of false membranes or purulent serosity. The fifth column marks the cases in which tubercles were formed in the lungs or bronchial glands.

* Tables of great extent, or which embrace numerous details, are obviously not adapted for publication; but a short tabular view of some of the symptoms of diseases little studied renders the facts far more intelligible.

1. Æt. 5. November. Feeble health.	Duration. Unknown.	Extent of Induration. Both lungs, especially the left, in nearly whole extent.	Pleurisy. None.	Tubercles. None.
2. Æt. 2. February. Feeble health.	Five months.	Posterior three-fourths of left and half of right.	None.	None.
3. Æt. 2. March. Disease of skin, (chronic.)		Posterior half of the right and three-fourths of the left.	None.	None.
4. Æt. 2. January. Measles.	Six to eight weeks.	Posterior three-fourths of the inferior lobe of both lungs.	Slight adhesions in left lung.	A few in the lower lobe of the right lung.
5. Æt. 2. January. Diarrhoea of a year's standing.	Three to four months.	Right lung; yellow hepatisation, except a little of the <i>posterior</i> part of the upper and lower lobes. Left, <i>idem</i> .	Adhesions in both lungs posteriorly.	None.
6. Æt. 2. January. Diarrhoea for two months.	Three weeks.	Posterior parts of upper and lower lobe of the right lung, and lower of left.	None.	In both lungs and bronchial glands.
7. Æt. 2. February. Rachitis.		Whole of right lung and inferior lobe of left.	None.	None.
8. Æt. 6. December. Cough of long standing.	Six to eight weeks.	Right lung in posterior half; left posteriorly.	On both sides.	In each lung and in glands.
9. Æt. 3. June. Feeble health.	Twenty-five days.	Both lungs, especially the right.	None.	None.
10. Æt. 2. March. Chronic disease of skin.		Posterior half of the right and three-fourths of the left.	None.	None.
11. Æt. 5. May. Tuberculous.	Seven weeks.	Inferior lobe of left, and posterior part of upper and lower of right.	Both lungs.	In both.
12. Æt. 3. January. Cough from birth.		Nearly the whole of right lung, and the lower lobe of the left.	Slight adhesions on right side.	None.

But one of the cases contained in the preceding table related to a child over the age of six years; seven of the twelve patients were between two and three years of age. The mean age, (exclusive of fractions,) is three years, or if fractional parts be counted, it will be between three and three and a half years. We see that there is an interval between the ages of three and seven years, in which the form of induration now described is comparatively rare, and that its most frequent occurrence is in the younger children: this statement is not applicable only to the children old enough to be admitted into the Children's Hospital, it is also true, and in a still more general way, at the Foundling Hospital, where very few autopsies are made without finding the lungs in a greater or less degree impermeable to the air.

The previous state of health was examined in all the twelve cases, and without any exception it was found to be feeble. Some of the children were affected with chronic cough, others with diarrhœa, which is very frequently the prelude to the pulmonary disease; two were admitted from other wards in the hospital, where they had been treated for chronic diseases of the skin of very long duration: not one of the cases occurred in a healthy child. On the other hand it was shown in the first part of this memoir that the older children who presented the ordinary form of pneumonia were with few exceptions in perfect health at the time of its appearance, and no case was regarded as a legitimate example of pneumonia unless the previous health of the child was perfect, or so little affected that no connexion could be traced between the chronic and the acute disease. If the same rigorous limitation were applied to the form of disease now under consideration, it is obvious that its existence as an idiopathic affection would be more than doubtful, for the cases which I have taken as examples were selected because the evidence of anterior disease was in them the least apparent: on minute examination we find, however, that even of these cases none was an original disease developed in a healthy subject, hence none could be looked upon as a strictly idiopathic affection, analogous to the pneumonia of older children. I possess many other observations of pulmonary induration which are still further removed from the character of an original disease, for in those instances no doubt existed as to the secondary nature of the affection, and it was not in accordance with rigorous induction to class them among the observations which admitted of comparison with the cases of older children affected with the ordinary form of pneumonia. The classification which I have adopted, excludes all cases in which the secondary nature of the symptoms was evident, and explains in part the rarity of the disease in children older than two years, but younger than those in whom cases of ordinary pneumonia occur; in very young children it is difficult for parents to recognise the first signs of disease, which are sufficiently obvious in older ones, to make the nature of the affection perfectly clear.

The duration of the pneumonia of young children was discovered with much difficulty, but in all cases it greatly exceeded that of older children; the least duration ascertained was three weeks; in some cases it extended to several months, and became really a chronic disease. In adults, or in older children, pneumonia is never, or at least only in rare and doubtful cases, a chronic disease, but in the form of it peculiar to young children its existence seems prolonged much beyond the duration of the first mentioned variety, and it does not

appear subject to any definite law. The beginning of the affection was sometimes, though very rarely abrupt; in general the cough was at first loose, and there was little apparent difficulty of respiration; these symptoms gradually increased, until the oppression became intense, and the respiration impeded to a degree much beyond what is ever remarked in the pneumonia of adults.

The lungs were in every case indurated in a large portion of their structure; in no instance was the lesion confined to a single one of these organs. This anatomical fact offers a very remarkable contrast with the pneumonia of adults, in whom the disease but rarely extends to more than one of the lungs. The affection of both lungs was not a mere accident occurring immediately before death, the physical signs proved that both organs became diseased nearly at the same time, and in nearly the same degree. The extent in which the lungs were impermeable to air was very great in every case; in some so small a portion of the pulmonary parenchyma remained permeable that the child must have died of the physical obstruction to the circulation of the blood; in such cases the difficulty of the respiration was extreme. In no case was the lung infiltrated with pus, or in the second degree of hepatization (yellow softening;) in a single* case the hepatized portion was of a yellowish colour, but in all the induration was great, resisting more or less on pressure, and although more easily crushed than a portion of healthy lung, the tissue was always much less friable than it usually is in the pulmonary inflammation of adults. The colour as described in the detailed cases which I have given, was a bluish-red, much less intense than that of ordinary hepatization; and as mentioned in those cases, the cut surface was smooth, shining, not granulated, and yielded on pressure a whitish, slimy mucus, instead of blood or pus. The peculiar manner in which the induration takes place was evident in some of the twelve cases, but before death the lesion generally becomes so extensive that its original aspect is retained in but a small portion of the lung. In cases in which death takes place from some other lesion than that of the lungs, the original character of the disease is more evident. The induration if studied in a large number of subjects presents three distinct stages. If a lung be examined in the first stages, the greater part of the parenchyma is very soft, rosy or gray, little infiltrated with serosity or blood, and permeable; in other circumscribed parts of the lung the tissue is of a dark brown or bluish colour, very hard, and a shining, glossy aspect, very different from that of the healthy tissue. These

* This case was an exceptional one in several respects.

indurations are exactly limited by the cellular tissue interposed between the lobules, and are not usually surrounded by the pulmonary tissue infiltrated with blood, and of diminished consistence: in this stage of the disease the name lobular induration is applicable to the lesion. In the second stage of induration the isolated lobules are more generally indurated; the lung if incised offers at first sight a homogeneous appearance, but an attentive inspection shows that it is marbled with small, irregular, grayish spots, from which bubbles of air can be forced by pressure; these grayish spots are portions of the pulmonary tissue, in which the vesicular structure is still distinct, but surrounded by indurated portions of lung. Some care is necessary to distinguish the presence of vesicles in the spots described; they may be mistaken for the orifices of divided bronchia, or sometimes for softened portions of the lung, but pressure on the parts will always force out some minute bubbles of air, and render their vesicular structure distinct. The third stage of induration presents the shining homogeneous appearance described in the two detailed cases; the vessels are still visible as little whitish lines, and the bronchia are compressed, but with a little care they may be readily traced. The state of the bronchia differs from that in which they are found in ordinary pneumonia; in the lesion now described, they contain some whitish mucus, very rarely yellowish, or puriform liquid; the mucous membrane retains its shining, transparent appearance, and is not often of a bright red; in no cases do I find it described as thickened. The inflammatory state of the bronchia is less intense therefore than in ordinary pneumonia, and is not accompanied by the secretion of the viscid, rusty-coloured liquid, which is almost characteristic of the disease in adults.

Inflammation of the pleuræ, indicated by the presence of false membranes, or a little puriform serosity, is almost always found in adult subjects dead of pneumonia; so frequently that the name pleuro-pneumonia was given by some writers to the disease. In the pneumonia of young children pleurisy is rare; of the twelve cases mentioned in the table, there were adhesion in five only; and of these adhesions some were cellular, perfectly organized, and had evidently existed a considerable time before death. When pleurisy occurs, it is therefore an exceptional case.

Four of the twelve subjects had tubercles in the lungs or bronchial glands. In one of these cases no tubercles were found in the lungs, although there were evident tuberculous deposits in the bronchial glands; this was an exception to the general rule.

I shall now examine the symptoms of lobular induration, comparing

them with those of the pneumonia of adults, or what is shown to be identical, the pneumonia of the older children, beginning with the symptoms dependent upon the thoracic organs.

Cough was a symptom in every case, but it varied in different children, and offered changes in its character, corresponding to the different periods of the disease. At first the cough was short, rather dry, it afterwards became more loose, and rather more frequent; towards the close of the disease, when a large portion of the lungs had become impermeable to the air, the cough was extremely feeble, and gradually became extinct. The voice was not altered in its character, but the breath became shorter with the progress of the induration, and both voice and cry became very difficult, and were sometimes wanting in the last days of life. Of course there was no expectoration; but when the mucus secreted in the bronchia was forced out by vomiting, it was whitish, glutinous, but never presented the viscid or rusty-coloured sputa of pneumonia.

The frequency of the inspirations was very great; with one exception not less than thirty-five per minute, generally from fifty to seventy, but sometimes much more frequent, and in one case amounting to more than a hundred per minute. In one case only, the respiration was slow, never exceeding twenty; this patient was emaciated from diarrhoea of some months standing, was tuberculous, and the extent of the pulmonary induration was not great; all these circumstances explain the apparent exception.

The physical signs of lobular pneumonia are at first limited to those dependent on the secretion of mucus into the bronchia, such as the mucous and sub-crepitous rhonchus. The sub-crepitous rhonchus frequently continued throughout the whole disease, and is never replaced by fine crepitus as in the pneumonia of adults; fine crepitant rhonchus is never heard in the pneumonia of young children; but in one or two cases at the Children's Hospital the rhonchus was rather finer than usual, and approached the ordinary crepitus. These cases were however exceptional, and the rhonchus usually regarded as characteristic of pneumonia is scarcely found in young children. Bronchial respiration is not developed until the induration of the lung has extended to a considerable portion of the parenchyma, and then it is chiefly confined to the upper and middle portions of the posterior part of the lung; in the lower lobe it is rarely heard from the comparative smallness of the bronchia, and their prompt obliteration by the progress of the compression. In a third of the cases the bronchial respiration was not distinct, even at the close of the disease. This absence of bronchial respiration is easily intelligible; to produce this phenomenon, besides

the condensation of the lung, it is necessary that the bronchia should not be obstructed, and that the air should be forced through them with a certain degree of force in the inspiration and expiration. In adults, although from the accumulation of mucus, the bronchia are sometimes obstructed, a slight effort of coughing, or even a change of position removes the impediment to the passage of the air, and the bronchial respiration is reproduced; the impetus given to the air passing through the bronchia is always sufficient to produce this sound. Young children cough more rarely, which allows the accumulation of more liquid in the bronchia; they also breathe with much less force, peculiarities which must render the bronchial respiration less distinct. There is however a character of the respiration in this affection which is almost peculiar to it; the inspiratory murmur, instead of being full and expansive as it is in healthy children, is short, obscure, blowing, and almost without the vesicular murmur; this obscure blowing inspiration may be accompanied with the mucous or sub-crepitous rhonchus, or it may be alone heard; the expiration is rarely distinct, unless the bronchial respiration is fully developed, when it is usually louder than the inspiration. This blowing respiration is described with great difficulty, but practice will render it perfectly distinct. Percussion is frequently of more utility than auscultation as a means of diagnosis in lobular pneumonia. The sound is dull on both sides of the chest, but in different degrees according to the extent of the induration; as both lungs almost invariably become indurated at the same time, the sound yielded on percussion must be compared with that afforded by a healthy chest in a child of the same age. A common source of error in the percussion of the chest in young children arises from the comparison made by the observer of one side of the thorax with the other, and as the difference of sound is frequently slight from the similar degree of induration, the erroneous inference is that the lungs are not diseased. When the induration extends to a considerable part of the lung, percussion yields a perfectly flat sound. It is always important to begin the percussion on the posterior parts of the thorax, as the anterior portions of the lung are scarcely ever diseased, and the child frequently becomes restless before the investigation is terminated. It is scarcely necessary to add that percussion should be very gentle and always mediate; for this purpose no pleximeter is so convenient as the back of the finger.

Besides the physical characters of lobular pneumonia, there are other signs not immediately connected with the functions of the thoracic viscera, but still caused by the difficult respiration; these are the signs offered by the countenance, which in children furnishes an im-

portant means of diagnosis. The face is flushed, livid, or irregularly red, in rounded patches on each cheek; the lips swollen and livid red; the nostrils in strong dilatation at each inspiration. These symptoms occur in almost every case if the induration takes place with tolerable rapidity; when it is extremely chronic, the want of respiration seems to accommodate itself gradually to the diminished extent of permeable parenchyma, and the dyspnœa is much less intense. In this more chronic state, the face becomes pale and emaciated, and the efforts of respiration are much less strong, although the mechanical obstacle is not really diminished.

Of the symptoms not immediately connected with the functions of the thoracic viscera, diarrhœa was the most constant. Of eleven cases in which the frequency of the dejections could be ascertained, there was diarrhœa in every case but one. The diarrhœa generally continued throughout the whole course of the disease; in one or two cases it was present at the beginning only; the stools were greenish and very liquid in the few cases in which they could be examined. Vomiting was rarely observed after the entrance of the children into the hospital, but frequently occurred at the beginning of the affection, especially after severe fits of coughing; I have but few observations in which the presence or absence of this symptom is satisfactorily stated, of these cases about two-thirds were accompanied by vomiting. The frequency of diarrhœa coincided with alterations of the mucous membrane of the large intestine. The thirst was always great. Appetite at first not impaired, but nearly destroyed when the dyspnœa became extreme, and apparently absorbed the whole attention of the children.*

The cerebral symptoms varied according to the degree of oppression and the rapidity with which the induration of the lung had taken place. When the disease proceeded quickly and assumed the characters of an acute affection, the dyspnœa was extreme, and the stupor seemed in direct relation with the oppression; sometimes it was so intense that the children were nearly insensible to surrounding impressions. When the pneumonia was accompanied by less dyspnœa, and the disease advanced slowly, the cerebral functions were scarcely impaired.

Treatment.—The treatment pursued by the physicians of the Children's Hospital did not differ essentially from that followed in the pneumonia of older children. The antiphlogistic method was pur-

* The preceding pages might have been increased by an analysis of the anatomical lesions. It is not, however, at present practicable to give a complete treatise; the points of primary interest are alone noticed.

sued, but in the cases I witnessed no blood was taken from the arm; either scarified cups, or what is still better, leeches were applied to the thorax in numbers varying from two to eight. Even this number of leeches should be applied with some caution, as the loss of blood from their bites is sometimes very great. External revulsion by sinapisms, poultices, or blisters was frequently used, and small doses of opium with demulcents were given as internal remedies. The success of these means was so small that their analysis would scarcely lead to any results; I shall therefore reserve until the conclusion any further remarks upon the treatment.

CASE. Paquet, a boy, aged two years, entered December 24th, 1832. Anterior health good; cough for the last eight days, and vomiting repeated on several days; diarrhœa for the last four or five days.

December 25th.—Present state. Hair light; eyes not injected; pupils natural; face generally flushed, without rounded red spots; lips rosy; nostrils dilated, in slight motion; emaciation advanced; abdomen distended, apparently tender on pressure; abundant diarrhœa; cough loose, rather frequent; respiration fifty, high, heard at a distance; pulse quick, 116; heat rather elevated; percussion sonorous; mucous and sibilant rhonchus on the left, followed by sub-crepitus when he speaks; on the right, mucous and sonorous rhonchus. Gum water; gum julep with tinct. opii. gtt. x.

On the 29th the respiration had increased in frequency to seventy per minute; cough very frequent; obscure percussion on both sides of the chest posteriorly, and on the upper posterior part of the right side bronchial respiration strongly marked both in the inspiration and expiration; inferiorly the same respiration with some mucous rhonchus; on the left side, respiration bronchial but feeble, with sub-crepitant rhonchus when he coughs. The examination of the chest became more difficult, from the increasing restlessness of the child. On the 3d of January mucous rhonchus on both sides; percussion still obscure on both, posteriorly. On the 8th, the percussion was sonorous on the left side, still a little obscure on the right. On the 13th, percussion sonorous on both sides; auscultation impracticable. Respiration, on the 3d and 4th of January, from 50 to 60 per minute. On the 8th it had fallen to 36, which frequency remained until the recovery of the child. The cough continued during the whole disease, and had not entirely ceased when the patient left the hospital; loose at first, but afterwards becoming harder and less frequent. Heat always moderate; pulse from 100 to 130 per minute, slower before the termination, but counted with difficulty, from the great restlessness of the child; appetite good throughout the whole disease; diarrhœa abundant at first, suspended after remaining two or three days at the hospital,

and again recommencing on the return of convalescence; abdomen always distended with gas; tongue whitish, moist, rosy at the edges. The countenance offered the intense livid colour in rounded circumscribed spots on each cheek, more marked on the left than the right; this appearance continued, with some variations, during the whole disease.

The gum julep with laudanum was continued. On the 28th, a Burgundy pitch plaster was applied to the back; after the 28th the treatment was limited to the gum julep and demulcents. Milk was allowed for diet on the 31st, and a light broth on the 1st.

This case is one of the small number of observations of lobular pneumonia which have terminated in recovery. The disease was easily recognised from the bronchial respiration, cough, oppression, and the peculiar appearance of the countenance. The symptoms were, however, much less severe than in the fatal cases. The diarrhoea was less constant and less severe than in the other cases detailed. The anterior history was not collected by myself, it was given to the house-physician on duty, and of course received without the same strict inquiry which is necessary on the part of a physician collecting a series of observations. The health of the child was said to have been good, it certainly could not have been sufficiently altered to attract the attention of the parents, but slight deviations from the healthy standard could only have been ascertained by a very rigid inquiry.

Recapitulation.—The disease termed pneumonia in adults, characterized by cough, viscous and rusty-coloured expectoration, crepitant rhonchus, bronchial respiration, and in most cases fever and dyspnoea, is observed in children above the age of six years, and is attended in them by the same group of symptoms as in adults, except the expectoration, which is often wanting. This disease is rarely fatal, is almost always limited to one lung, generally to the inferior lobe, and occurs more frequently in the right than the left lung. The morbid appearances found on dissection of the lung, in a single autopsy, were similar in children and in adults; a deep red, granulated surface, from which a reddish, purulent liquid could be forced by moderate compression, indicating the passage between the second and third degrees of pulmonary inflammation, or between the red and yellow hepatization.

Before the age of six years, pneumonia is rarely if ever found with the same characters as in adults or the older children. It scarcely ever occurs in children in good health, so that it was impossible for me to find a single instance amongst the younger children whose parents I had interrogated with care. Instead of beginning abruptly

with sudden pain and difficulty of respiration, its progress is gradual, scarcely exciting attention until a large portion of the pulmonary parenchyma has become impermeable to the air. There is always mucous and often sub-crepitant rhonchus heard in the chest, but never or scarcely ever fine crepitus. Bronchial respiration occurs in many cases at the upper and middle parts of the lung, but in some instances the alteration in the characters of the respiration is limited to a short blowing inspiration without distinct vesicular expansion, and sometimes, but not always, followed by a short loud expiration. The anatomical characters of this variety of pulmonary disease are very different from those of the pneumonia of adults. The incised surface is smooth, shining, homogeneous, with no trace of granulations, and of a bluish-red or brown colour; upon this ground are seen whitish lines, which, if examined, will be found to be the pulmonary vessels. No purulent liquid exudes from this surface, nor does it offer the reddish-yellow aspect of the third degree of pneumonia. If the purulent infiltration ever occurs, it can only be in very rare instances. The consistence of the diseased tissue is much greater than is usual in the hepatization of adults, and is sometimes so great as to offer resistance to strong pressure. The induration is at first confined to isolated lobules, which in their hardness and dark colour offer a strong contrast to the surrounding pulmonary tissue. The extent of the pulmonary induration is sometimes much greater than it ever is in the pneumonia of adults, including nearly the whole parenchyma of the lungs. I have seen no instance in which the induration was confined to a single lung; both were always affected. The part of the lung diseased was the posterior margin, including the lower lobe and the posterior part of the upper. This portion was not separated from the healthy parenchyma by a gradual transition from the diseased to the sound tissue, but was generally bounded by a line which would pass through both lobes parallel to the axis of the body; the middle lobe of the right lung which does not extend to the posterior part of the lung, is rarely indurated. The duration of the induration was not fixed, extending sometimes to several months, and offering so great variations that no average time would faithfully represent the duration of the disease.

The name pneumonia is commonly applied to the two forms of disease which we have investigated; these varieties are generally looked upon as so identical, that an eminent physician of the Children's Hospital has stated that few children die without pneumonia to a greater or less extent. There are however so many points of difference between the two affections, that it is at present illogical to regard

them as identical. The first variety appears to be an ordinary inflammation of the lung, the second offers much greater analogy with the mechanical obstruction to the circulation of the blood through the lungs, which often occurs in old age; this opinion is corroborated by the fact of its occurrence, only as a secondary lesion in patients enfeebled by disease, and at the posterior parts of the lungs where the blood has a natural tendency to accumulate when the physiological powers are deficient. The lesion known by the name of pneumonia of young children is therefore not similar to the idiopathic inflammation of the lungs, but is a mere secondary lesion occurring during the course of numerous affections of childhood, especially bronchitis, measles, and chronic diarrhœa, and should be described as the lobular induration of the lungs.

The treatment which was pursued was similar to that employed in the pneumonia of older children; but the depletory measures seem peculiarly adapted for the very commencement of the affection, to diminish the quantity of blood passing through the lungs. Opiates were much employed, but the advantages derived from them are very problematical. After blood-letting the use of revulsives on the part affected, or still better over the whole cutaneous surface, offers the greatest probability of advantage. In chronic cases no revulsive is superior to the sulphur bath, made by dissolving one to four ounces of the sulphuret of potassa, according to the strength of the child in an ordinary bath; care should be taken not to prolong the bath if the child appears exhausted, and not to expose the face to the vapour from the sulphur. The treatment presents many questions for investigation, the present inquiry was necessarily directed to those points of the natural history of the disease which could be studied with more accuracy than the treatment at the Children's Hospital. If the pathology of the affection has been rendered less obscure, the operation of therapeutic means can be traced with sufficient precision to estimate their value.

ART. VI. *On the Permanent Adhesion or Incorporation of the Placenta with the Substance of the Uterus.* By J. W. HEUSTIS, M. D. of Alabama.

THE incorporation with, or permanent adhesion of the placenta, either in whole or in part, to the substance of the uterus, is a circumstance of frequent occurrence in obstetrical practice, and one accompanied with embarrassment, and not unfrequently with danger.

The placenta, in such instances, instead of forming a distinct viscus, slightly attached by intervening vessels, appears to constitute, as it were, a portion of the uterus itself, and of the same firm, hard, and resisting texture and consistence. In some women this peculiarity occurs at every pregnancy, in others it is accidental. The immediate and efficient cause in accidental cases, would appear to be a degree of preceding inflammation, or excessive irritation in the uterus, or placenta, or both, as producing a too copious effusion of lymph, and the consequent agglutination of the placenta to the contiguous portion of the uterus, in the same way as the pleura costalis becomes united to the pleura pulmonalis, by inflammation in either membrane. In consequence of this intimate union, the placenta is never detached in the usual time after delivery, but remains a source of irritation, pain, puerperal fever, and a tedious train of dangerous and distressing symptoms, until removed by the slow processes of decay and putrefaction, which are sometimes not finally completed sooner than a month or six weeks.

In cases of this description it should be the business of the physician to remove at the time of delivery, or as soon thereafter as may be, every portion of the placenta that is, or may be conveniently detached. And here I would take occasion to remark that the waiting for the contraction of the uterus some thirty or forty minutes, as usually inculcated by obstetrical writers, is generally neither expedient nor necessary, at least I have never found it so in the course of my experience and practice. Were we to wait for the unassisted efforts of nature to bring about an expulsion, much time would be consumed to the no small inconvenience, pain and suffering of the patient; who, after the birth of the child, is anxious and impatient for the final delivery of the secundines, that she may take the necessary refreshment of repose. Besides, the uterus and powers of the system have been already so much overstrained and exhausted by the birth of the child, that little remain for the expulsion of the placenta. I have, indeed, been called in to several cases of retained placenta, attended by practitioners of moderate experience, where I have found the patients enduring great distress from this very circumstance. I have, therefore, always afforded manual assistance, in a few minutes after the delivery of the child. For this purpose the funis should be kept tense with the left hand, extending it over the forefinger of the right, or vice versa, according to the position of the patient, in the direction of the axis of the pelvis: if moderate force is not sufficient to enable nature to bring about the expulsion, the hand should be introduced so as to grasp the placenta, which, except in cases of intimate adhesion

will generally follow the withdrawing of the hand with very little force.

In all cases of flooding, the rule universally is to deliver the placenta with as little delay as possible. But this delivery we are not always able to accomplish, in consequence of the morbid adhesion existing between it and the uterus; here, then, we must detach and remove without delay as much as we conveniently can, and trust to the partial contraction of the uterus, cold applications, anodynes and astringents for the balance.

By way of illustration it may not, perhaps, be altogether uninteresting to subjoin a case or two out of many that have fallen under my observation. And this I am the more inclined to do from the meagre accounts and descriptions of this disease to be met with in professional writers.

CASE I. On Sunday evening, October 2d, 1830, I was sent for in haste to visit Mrs. B. who had been taken in labour the preceding evening; she was a lady of great feebleness and delicacy of constitution, and who had previously borne three children. Her confinement on such occasions had been uniformly tedious, and her convalescence lingering; being generally compelled to keep her bed for at least a month. I had been sent for over night, but being absent in attendance on patients at a distance, another physician had been called in, who had superintended the labour with the manual assistance of a negress midwife. She was delivered in little more than the ordinary time, about 4 o'clock A. M. of a fine, large boy, weighing nine pounds. After waiting nearly two hours, and no symptoms of contractions and expulsive efforts on the part of the womb to throw off the placenta taking place, the exhaustion and debility at the same time being great, together with the appearance of flooding, threatening to prove fatal by every minute's continuance, the attending physician, who was young, but well read and intelligent, expressed his apprehensions to the husband; the latter promptly requested him to do without hesitating or delay any and every thing which he might think necessary for the safety of the patient. He accordingly introduced the hand, and attempted to deliver the placenta, but finding that it adhered very firmly, he desisted. I arrived in a short time afterwards. The physician related to me briefly the situation of the lady, and the course that had been pursued. I found her extremely weak, pale, and death-like, with a pulse, weak, thready, and scarcely perceptible; she complained that she was fast sinking, and must soon die without relief. The extreme symptom, however, of cold sweat, had not yet made its appearance, and was perhaps retarded by the coolness of the

weather. I perceived that there was no time for delay, since the loss of a few more ounces of blood would in all probability have prostrated the system beyond the power of recovery. Having oiled one hand I succeeded in insinuating it into the uterus, guided by the umbilical cord which I held in the other. I found the uterus high up, loose, pendulous and uncontracted. My disengaged hand I now applied to the parietes of the abdomen, embraced the womb, and aided by pressure the other hand within the cavity of the uterus. The placenta was partially detached, but the remaining adhesions were so firm that they could with difficulty be separated; and a portion of the placenta was so firmly united that it seemed to form, as it were, a part of the uterus itself. Embracing, therefore, in my hand as much as was loose, and had been detached, I carefully withdrew it, and was gratified to find that the womb followed the placenta in its descent. A small portion of the after-birth I was under the necessity of leaving behind, to be removed by time. For the purpose of arresting the hæmorrhage, and producing uterine contractions, I used frictions with the hand previously immersed in cold water, applied a cold sad-iron to the region of the uterus, also linen cloths wet with cold water, and finally prevented the further external bleeding by the introduction, *ad plenum in vaginam*, of fine linen cloths wet with cold water. The cloths were suffered to remain in vaginam twenty-four hours, and then carefully removed; a slight discharge of blood ensued, though no more than natural, and what might be expected from the gradual solution of the clots *in utero*.

On the fourth day from her delivery I was sent for in haste, and on my arrival was told that a very offensive discharge consisting of "lumps and clots" had taken place from the womb; an occurrence that I had anticipated, though not quite so soon. The patient was in great alarm; I, however, soon quieted her fears, by telling it was nothing more than what must necessarily happen in her situation, and that no danger was to be apprehended. In her weak and exhausted condition encouragement was necessary, though my own hopes and confidence were far from being sanguine. To correct the fetor and to act as a detergent, I directed the daily injection of a weak infusion of oak-bark with alum, and the subsequent use of tincture of myrrh sufficiently diluted. Injections of this kind proving too irritating, warm milk and water were substituted with the best effect; and to subdue the incipient peritoneal inflammation, warm fomentations were applied to the abdomen. From the first she had complained of an obstinate and unceasing head-ache, which she laid to the use of opium, given by the physician who had been in attendance at the time of her

delivery. This was considerably relieved by the application of two small blister plasters to the temples.

On the ninth day I was again sent for in haste, about four o'clock in the morning. I found her with a very considerable fever, and great pain in the side, just above the hips; the pain had been previously wandering, but was now fixed and severe. Her great debility seemed to forbid the use of the lancet, and yet the urgency of the symptoms demanded decided and immediate relief. I therefore ventured upon a small bleeding, and took away a little more than half a tea-cupful of blood, a quantity in her situation proportionably equal to a quart in a robust individual. After the bleeding the pulse became softer and slower, and the pain soon subsided. In a short time after the bleeding a table-spoonful of castor oil was exhibited. I left her much relieved. Visiting her in the evening I found that the pain had entirely subsided, and that the fever had nearly disappeared.

From this time she convalesced slowly, being occasionally much affected with head-ache, particularly in the evening; though for a day or two after the venesection she had been quite relieved from it. On account of this disposition to head-ache I was under the necessity of discontinuing the use of the bitter decoction and quinine. The bowels were much disposed to constipation, a condition that always aggravated her other symptoms. The stomach rejected all the ordinary cathartics; I therefore prescribed senna and manna. These also proved extremely disagreeable in their operation, producing in her weak state great debility and prostration. She was therefore advised to trust the regulation of her bowels to diet, and the daily use of enemata.

About a month after her confinement she was seized with a dull, heavy pain and distressing sensation in the right hip and iliac region, rather exteriorly to the pelvis, and deep-seated; together with numb and dead sensation extending down the thigh and leg of the same side. These were relieved by the use of stimulating frictions and the warm pediluvium.

Her convalescence was finally aided by the use of infusion of Colombo and the muriated tincture of iron. Tonics of a more stimulating nature as quinine, decoction of bark and gentian, &c. at an early period were found inadmissible, on account of their exciting a feverish state, and greatly aggravating the pain in the head.

CASE II. On the 31st of March, 1832, I received a message requesting me to visit Mrs. B——s, who was represented as being in labour. As the patient was nearly thirty miles from my residence, it was late in the evening before I arrived. She informed me that she had been affected with labour pains for two days, which were sometimes severe,

and that she was in a constant state of suffering and distress. The pains, however, were irregular, erratic, less severe in the side, and more concentrated in the loins. These symptoms, according to her calculation, were six weeks anterior to the completion of her gestation; and were probably brought on in consequence of the fatigue she had undergone a day or two previously, in riding a distance of eight or nine miles in a gig, from her own residence to that of her father's. For more than a month there had been frequent discharges of water from the uterus; previously to which discharge she would suffer much pain and oppression from the accumulation of fluid, and from the distention of the abdomen. These discharges, I have no doubt, proceeded from a rupture of the foetal membranes, and consisted of the liquor amnii itself: this I infer from the fact that there was no effusion of water during the whole process of parturition.

Soon after my arrival I proceeded to ascertain the situation and progress of the labour. I found the os uteri dilated, and the head of the child presenting about three or four inches from the os externum. Her pulse was frequent, indicating excitement, pain and irritation; as, however, the strength appeared to be but little impaired, and as there was no hæmorrhage, I did not consider that there was any urgent necessity for immediate delivery. She had been bled the day before, and I now directed an aperient, and as there was some soreness of the abdomen, directed warm fomentations. I then left her, with directions to apprise me of any aggravation of symptoms. In the morning I found her much the same; still suffering from irregular and inefficient pains. She was now anxious for delivery, yet apprehensive of consequences. Upon advising with the attending physician it was determined to cut short her sufferings by using the *secale cornutum*. About eight or ten grains were accordingly given in a little water. In a few minutes the pains increased, and becoming more severe, concentrated and unyielding, the patient was delivered in less than an hour from the time that the ergot was exhibited. The child was small, livid, and almost exanimate; and as the cord still pulsated, the connexion with the mother through that medium was allowed to continue for about ten minutes, at the end of which time respiration was established. The child now assumed a deep, universal, and fiery red, and in several places the cuticle was removed, exposing a raw surface. The foetus had doubtless suffered greatly from the discharge of the water during the latter period of gestation, deprived of its natural and proper element, and being firmly embraced and compressed by the investing parietes of the uterus, its development was retarded, the circulation impeded, and the skin irritated and inflamed. It lived but about twelve hours.

I had been informed of the dangerous consequences resulting from the previous labours of this lady, and the repetition of the same were again apprehended, viz. retention of the secundines. After waiting the usual time, fifteen or twenty minutes, I deemed it expedient to ascertain the state of the uterus and its contents. The womb was contracted, firm and globular above the pubes, but upon conveying my hand along the cord to the placenta, I found it adherent, firm, hard, unyielding and inseparable, apparently incorporated with the uterus itself. As there had been no separation of the placenta, so there was no flow of blood subsequent to delivery; she was now comparatively comfortable; the nervous and vascular irritation had subsided, and the pulse soft, equable, and natural. Finding that nothing further could be done at present, I left her, with advice to the attending physician, of which the following is a summary. To guard against fever and inflammation, by attention to diet and the state of the bowels, elixir of vitriol two or three times a day; should tenderness of the abdomen come on to use warm fomentations; when symptoms of decay and decomposition should take place in the placenta, to use frequent injections of warm milk and water, and subsequently a solution of the chloride of lime, observing strict quietude and rest, and avoiding every thing of a heating and stimulating nature.

Three days subsequently I again visited Mrs. B——s, I found her quite as well as could have been expected. She had hitherto experienced but little fever or uneasiness. On the day of my arrival, however, there had been some increase of uterine pains, and during my absence there had occurred at one time a considerable gush of blood. Of this, however, there was no repetition; and the presumption is that a partial separation of the placenta taking place, the hæmorrhage was speedily arrested by the prompt contraction of the uterus closing the patulous and bleeding orifices. Decomposition had now taken place in the retained and extraneous mass, as indicated by the fetor. Upon examination, although the cord had been removed, I reached the placenta with little difficulty, the os uteri being patulous, and the other parts lax and yielding; the fimbriated circumference of the membranes hanging loose, so as to be readily seized with the fingers, but their texture was still firm, nor could the placenta be in the least detached by any moderate degree of force that prudence might authorize.

After delivering the necessary directions, which were much the same as those I had previously given, I left the patient under the care of her attending physician, a relative of her's, and a young man of much cleverness and promise in his profession.

I saw her no more, but learned that her recovery was slow, lingering, and painful, although she now enjoys tolerable health.

ART. VII. *Remarks on Cases of Retained Placenta.* By T. I. CHARLTON, M. D. of Bryan County, Georgia.

IN the southern states, parturition is generally an easy and safe process; deformity of the pelvis is a rare occurrence, and rigidity of the soft parts so frequently retarding and rendering labour hazardous in the north, is here not often met with, or easily remediable. I do not think I am hazarding any thing in asserting, that at least one-half of the fatal terminations of the cases of parturient women are attributable to the placenta, either to its partial separation, and the consequent hæmorrhage, or to its retention in the uterus for a length of time beyond the proper period for its expulsion, and to the state of extreme prostration and fever resembling typhus which follows. This last occurrence, (the subject of this paper,) is infinitely rarer than the first or hæmorrhage, and can only be accounted for by the most culpable negligence in permitting the retention to exist so long; or by the unusual circumstance of a portion of the placenta being schirrous and firmly attached to the womb. Having met with cases of this kind, in which the retention had existed from three to six days before I saw them, and having had to treat them more from inference and analogy than from any specific method I could find in books, I have thought it might not be altogether useless to give the history of the cases and the mode of treatment adopted.

Jeanette, a coloured woman, had miscarried four days before I saw her, the child was of the seventh month, and had died within an hour after birth; the midwife had attempted to bring down the placenta by pulling at the cord, which she ruptured; she had also made frequent attempts to detach it from the womb, but said she had found it impossible to accomplish this, the adhesion being so firm as to render it probable that a persistence in the attempt would have inverted the uterus. There had been but little flooding, and the womb had contracted, (according to her statement,) around the after-birth, but not sufficiently so as to make this a cause of retention.

On the fifth day I saw her; her pulse was 120; she had great heat, oppression, head-ache, coma, and in fine, all the symptoms which characterize typhus fever, so called; the fetor from copious discharges of a green water from the uterus was very great; the tenderness of the soft parts made an examination very painful; on making it, I found a portion of the placenta attached to the fundus uteri, which I brought away; it was highly offensive, and more than ordinarily compact in structure; the other contents of the womb were a semifluid

substance, which was no doubt the remaining placenta in a putrescent condition; I brought away a part of this, but as the effort was attended with great agony from the inflamed state of the vagina and uterus, I did not think that a persistence in the attempt to bring away all the contents of the womb would be advisable. I had in DEWEES'S *Midwifery* met with descriptions of such cases, in which he says that the prognosis is very unfavourable, but recommends as a palliative for the local symptoms the use of injections of chamomile tea, with a little quicklime slacked in it. I was led, by seeing the powerful antiseptic effects of the chloride of lime in other diseases, to infer that it might be useful in this instance. I accordingly directed an injection of a weak solution of it to be thrown into the vagina every hour, at the same time small doses of the acetate of ammonia were given every hour, and the free use of gum water and lemonade directed. I did not employ the bark, wine, or any other stimulant or tonic commonly recommended in similar cases, for the reason that I had never seen what was called typhus fever benefited by these remedies, and the constitutional affection in this instance I deemed to be exactly the same with that which is usually called typhus, that is, a gastritis either primarily occurring, or superinduced. In this case the inflammation of the organs of generation, the pain, the mental excitement, were amply sufficient to have produced a sympathetic gastritis. I am borne out in this supposition by the following proposition of BROUSSAIS. "Intense irritation of all organs are constantly transmitted to the stomach from their very commencement. If the irritation received by the stomach attains to the degree of inflammation, symptoms of gastritis appear, and as the brain is always then more irritated, it develops in a higher degree the sympathies which are proper to it and may even become inflamed."

In this case there were all the symptoms that occur in primary gastritis—the dark tongue, the muscular debility, the depression, the coma, were all present. I treated it as a gastritis—I withheld all stimulants except the acetate of ammonia, which is the most transient one, and which I have found to be the only one I could safely use in cases of united inflammation and debility: I gave demulcent and acidulated drinks plentifully, and blistered the extremities. The chloride injection, by correcting the fœtor, rendered the patient's situation much more comfortable; the fever also diminished considerably in twenty-four hours after the adoption of the constitutional remedies; the pulse became fuller and slower; the coma disappeared, and in fine, all the symptoms I attributed to the gastritis yielded to the remedies administered for that disease. The soreness of the vagina, &c. was relieved by mucilaginous injections; the discharges from the ute-

rus continued for about a week, at the end of which time all its contents had been discharged, and the lochia were not immoderate.

In a similar case of a young married woman, where the local and general symptoms were even more aggravated by a retention of a week's duration, the same plan of treatment succeeded.

At the time when these cases occurred, I had not read Broussais's Pathology, in which the above quoted proposition is contained, *id est*, that irritation of any other organ can produce gastritis; but I was familiar with his other works, and was accustomed in the treatment of all diseases to watch for the symptoms of gastric irritation, and to present further indications, for although not as yet well knowing how these symptoms had been brought on, still I had observed that there were few diseases in which they did not appear first or last, and I had always found that the disease was diminished or aggravated in proportion to their intensity.

Bryan County, Georgia, July 23d, 1834.

ART. VIII. *Description of a New Splint for Fractured Clavicle.* By E. C. KECKELEY, M. D. of Charleston, S. C. [Communicated in a letter to the Editor.]

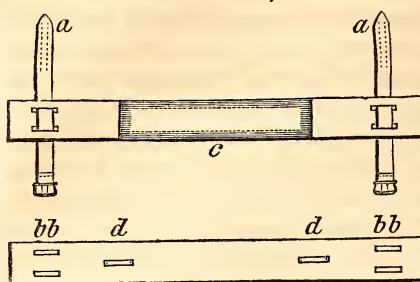
I BEG leave to introduce to your notice a splint which I have used in the treatment of fractured clavicle. I have had but one opportunity of testing its utility, and that one satisfied me that it might be with advantage substituted for the more complicated bandage of DESAULT. It appears to be adapted in an *especial manner* to the treatment of two kinds of cases.

1st. Where the accident which causes the fracture produces so much injury to the parts over which the bandage, if applied, would pass, as to prevent its application.

2d. Where, from the restlessness of the patient and his inattention to directions, the bandage is continually becoming loose, thereby frustrating the object intended to be accomplished by it.

A case of this kind suggested the formation of the splint. A stout, athletic man fell from a height and received an oblique fracture of his clavicle. The bandage was applied. The patient was so restless that as soon as he was left to himself it became loose. Knowing that if things were suffered to go on in this way *no credit* would be gained for the management of the case, a splint was made and applied. There was

no occasion for its readjustment during three weeks, at the expiration of which it was taken off, the cure being complete in every respect.



The upper figure exhibits a front view, and the lower a back view of the splint.—*a, a*, Are two bandages with buckles attached to one end of each.—*bb, bb*, Are four morticed holes for the passage of the two bandages *a, a*.—*c*, A portion of the splint padded, to prevent its bruising the patient.—*d, d*, Two loops of leather, tacked on the back of the splint, for the passage of the bandages, where the morticed holes are too far apart for the breadth of the patient from shoulder to shoulder.

The splint, of which the accompanying figures give a representation, is two feet three inches long and three and a half inches wide.

Mode of Application.—The end of the splint corresponding to the uninjured side is to be pressed close to the back of the shoulder and retained so by drawing the bandage tight, and retaining it by means of the buckle. Previous to fixing the bandage, it should be passed through two

loops on a small pad, which is to be placed in the axilla. This pad is used for the purpose of preventing the cutting of the bandage. After passing the other bandage through two loops, on a large cuneiform pad, which is placed in the axilla of the injured side, it is drawn sufficiently tight and secured by the buckle. The last thing to be done is to place a handkerchief, doubled into a triangular form, in such a manner over the arm, the front and back parts of the thorax, as that it shall draw and confine the arm of the injured side close to the body, give it support, and prevent its falling down. By these means the three indications in the treatment are fulfilled.

Charleston, September 3d, 1834.

ART. IX. *On the Vis Medicatrix Naturæ*. By JOHN DICKSON, M. D.

IN reviewing the speculations and theories of our great predecessors, however fanciful and insufficient we may consider them in their extent and application, we shall seldom fail to discover an important mixture of useful truth, and careful observation. Instead therefore of ridiculing them in the gross, or giving them up to contempt and oblivion, it is often well to study the facts they involve, and sift out the truth from the mass of error with which it was mingled in consequence of their scholastic prejudices and habits of theorizing.

Few of the technical terms of the first founders of medical science are more frequently quoted to point a satiric paragraph in a lecture or essay than that which forms my present subject; few of their high-wrought hypotheses are more familiar to students in this department of knowledge than the scheme which this term presents to view. I need not therefore quote at length.

It will plainly appear, I think, on a candid examination of facts, that there was much truth, and very important truth, couched under this fanciful personification: and it is with a design to present some of these facts or general principles in a connected and impressive view to younger members of the profession that I have selected the subject. The results of these facts or principles will be seen to be practically the same as if such a personification were real and influential in the system, and this may teach us neither to despise the works of the more ancient writers, nor to neglect to examine for *ourselves* the most ingenious disquisitions of the authors that now take the lead and stamp their image on all the doctrines current in the present day.

1. The *first* great principle I shall mention, which seems to give some countenance to the theory alluded to, is *the reaction of certain vital powers against certain morbid agents*.

I am well aware that the term *reaction* is so often vaguely used, that all the ridicule directed against ancient theories may be legitimately levelled at some of those which have succeeded. Still as it is with *things*, not *words*, we have to do, I shall not despair of being understood. By reaction I mean an excitement of some vital action, (such as Good calls instinctive,*) *succeeding* the effect of an application of external causes. This succeeding vital action often *appears* to be little if at all correspondent in its nature with the previous actions or states of the system. We cannot always trace the connexion philosophically, but experimentally, (if it be proper to make the distinction,) we are compelled to notice the fact. It is always, however, a vital, and therefore a natural action which is thus produced, and when we have learned to expect its occurrence, we may be said to depend on a kind of *vis medicatrix naturæ*—a provision in the system for contingencies to which all the race must be exposed.

The literal meaning of the term *reaction*, though not applicable to medical subjects, may serve to illustrate the truth which it figuratively expresses. When an elastic body is compressed by a given force, so soon as that force is spent the elastic matter resumes its

* This celebrated author attributes instinct to the mere material of vegetable as well as animal forms or parts whilst they are alive.

former extent and shape. So a morbid power being exhausted in producing a certain impression, there may be a *nisus* or tendency to return with a force proportioned in some manner to the previous impulse, into the original or some other native state; and as the rebound of an elastic body will under certain circumstances carry it further back than the point whence it set out, (as when the force of impulsion is greater than that of gravity,) so the reaction may often exceed in violence and extent the diseased influence impressed in the first instance on the system. But I hope I shall not be thought guilty of attributing to these remarks any value beyond that which they have as similies or illustrations. They are not philosophical or scientific principles, but mere comparisons, and the use here made of them may serve to show how we may justifiably and profitably employ the fictions of our predecessors; they may often happily elucidate what they cannot prove, and assist us in that study which they ought not to supercede. Elasticity here is not *identified with*, but only *compared to* vitality.

I shall not enter at this time into an enumeration of all the reactions capable of being produced in the system, or the agents concerned in their production. This would be a highly interesting and useful work, and it is here suggested to those who have learned more of pathology than I can profess to have done.

2. *Another* principle to be here considered is the incompatibility existing between the diseased state produced by a given agent, and the present condition, either natural or diseased, of some other part or parts of the system. It is well-known that certain actions of the system or of its organs are so associated with others that the commencement of an action of one part or organ is at once attended or followed by a particular action of another part or organ. This arrangement often gives a check to the morbid agency of powers or principles eminently destructive to life—powers that are capable of suspending some of the vital actions. The strength and health of one part or organ thus becomes the strength and health of other portions of the system.

The sympathy or association between organs or parts of the body, whence the incipient or increased action of one excites another whose action is curative of the excessive action of the first, is a matter of experience and common observation; and this is but another way of stating the same principle. And it may be added that even when the sympathy brought into action does not directly involve a curative tendency, diseased excitement may be lessened in a particular organ by being diffused or extended to others, which are intimately associated with that organ. Under this general head we may place perhaps the effect of derivatives, and the resolution of inflammation in

some circumstances. Further from the natural combination of certain actions, such as are not interrupted or weakened by the morbid cause, often start and support those which are interrupted or impaired.

3. Certain diseases, it is admitted, have a natural course which they run through and then cease. It may, for aught we know, be true of all diseases, or of any disease whatever, in a constitution sufficiently strong to endure the continuance of the disease throughout its various stadia. Some of those diseases which are known to have such a regular and natural course kill the weakly, while the strong live through them. Now the supposed *vis medicatrix* may very well be imagined to be in operation in some cases of the latter kind, where the disease existing is not known or believed to have such a natural course ending short of a fatal event.

4. Habit, a power, (shall I term it?) still so little understood or estimated, is in many cases the true *vis medicatrix naturæ*. It continues the vital actions in spite of the deteriorating effect of disease, and often seems to sustain life or the continuance of existence, where the vital actions are scarcely performed. Nothing else seems sufficient to explain the maintenance of life under the most unfavourable circumstances in certain cases; and this we are compelled by facts to receive as the sufficient reason.

5. Life itself, the unknown principle which we may just consider as the antagonist of disease in every part—life itself is deserving of this long disputed title. All the powers of the body may be with strict propriety resolved into this, i. e. life, for whatever may be the qualities of the mere matter of which the frame is composed, no purposes of animal existence can be answered by the relation between that matter as such, and the external world. Life includes every organ with properties entirely distinct from any thing it possesses, considered as a mere mass of a given chemical composition, or weight, or form. No sooner is it withdrawn than chemical actions take place, which could not otherwise be effected. And what is of more importance in this place, it is only while life is continued that any curative means we institute can produce the appropriate effect. The chemical action of a substance introduced into the stomach is not, (at least generally,) the effect we aim at when we administer it as a remedy. The chemical action might take place after the extinction of vitality in the organ to which it is applied, but its effect as a remedy would then be looked for in vain. I have purposely omitted the consideration of surgical cases in which the thing is obvious to the eyes.

From these reflections we may I think perceive the force and propriety of such language as that on which we have been animadverting. The principal evil no doubt arising from the employment of such terms

is that from their indeterminateness, the student is at a loss how to apply them, and may even at length almost forget that he is dealing in mere personification, while he brings in as real agents to cut the knot of every difficulty he meets with, those qualities which have no existence by themselves but must inhere in something tangible and evident.

To show the necessity of caution in this respect, and to assist the student in exercising it, are the objects in view in these brief paragraphs.

ART. X. *Observations on the Treatment of Gun-shot Wounds, Ulcers, &c.* By PAUL F. EVE, M. D. Professor of Surgery in the Medical College of Georgia.

A PRINCIPAL object of this communication is to lay particular stress upon the importance of dressing wounds and recent ulcers with the chlorides of lime and soda. The most intelligent surgeons now depend upon fine lint kept wet with cold water, leeches, sometimes emollient poultices, perfect repose, depletion, &c. in the treatment of gun-shot wounds, which, together with the chlorides, will be found superior to any plan yet proposed. This treatment combines the advantages of the materials required being easily obtained in almost every situation; of a most efficacious disinfecting agent which is of much importance in camps and hospitals being employed; of being decidedly the most agreeable of all other methods of treatment to the feelings of the patient; and lastly, of greatly accelerating the healing process.

The manner of using the chlorides is in solution in water. As a general application to wounds and recent ulcers, an ounce of dry chloride of lime to two pints of water, or two drachms of the chloride of soda, (of Labarraque,) to a pint of water, is found to be the best proportion. Confessedly, no agents of the *Materia Medica* possess greater disinfecting properties; but however satisfactory the chemical operation in this process may be understood, the same facility or perspicuity of explanation is not apparent, by which they promote healthy granulation and cicatrization. While speculation is purposely avoided, it may be inquired, does not the very union of the chlorine gas of the chloride with the hydrogen of the watery particles or gas secreted by the surface of a wound or ulcer, produce an alteration at once destructive of putrefaction and irritating matter? and besides the result of which combination, we have the alka-

line base, soda or lime, the action of which is known to be salutary in such cases.

Of the two preparations, the preference is given to the chloride of soda for recent solutions of continuity. A tea-spoonful of this article in a pint of water imparts to it an oleaginous appearance and sensation when touched, which any quantity of the chloride of lime never does, and this fact cannot therefore depend, as has been suggested, on the superior causticity of the one over the other. It is conceived that this very impression of the solution in water being milder, renders the chloride of soda better adapted for recent wounds than the same preparation of lime.

These agents I have found strikingly useful in gun-shot wounds accompanied with primary or secondary hæmorrhage, or luxurient granulation. The medium through which they were applied, a pledget of lint, operated by compression in arresting the flow of blood, or suppressing the fungous growth, and the chloride at the same time improving the appearance of the exposed surface. In these cases, as well as in others where they are applied, the lint may be kept wet through the day, or the solution only occasionally poured over the dressing. The chlorides are also found serviceable for fistulous openings and sinuses; in fact, their use is extending over a wide field of surgery.

On the second subject proposed for consideration little will be offered, being content to refer the reader to the excellent article on amputation, in the fourth number of the *Cyclopedia of Practical Medicine and Surgery*, from the pen of Professor GEDDINGS, of Baltimore. This contains the opinions of nearly all authors on the subject, and the views of the intelligent writer are similar to those of the Lecturer on Surgery delivered in our Medical College. Operations which a few years ago were complicated with a multiplicity of instruments, and thereby requiring much time and labour, are now performed, with ease and celerity, with very few. I have never employed, except in my first amputation, more than one knife, and have never dissected the skin for the purpose of turning it up like the cuff of a coat, with the one exception, believing it now in any amputation useless and unnecessary. No difficulty has been experienced in securing sufficient skin to cover the stump by the hands of an assistant drawing it up, and, with the point of the amputating knife, dividing the bridles of cellular texture, even over the spine of the tibia in amputation below the knee. The triple circular incision is considered best adapted to civil practice, whether in amputation of a limb containing one or two bones. In the latter case, a long catlin, or narrow, double-edged knife, is preferred to all others; and as for dressing the stump, the day may not be far distant when a simple

roller bandage, and a solution of the chloride of soda or lime, will constitute the whole apparatus.

The following cases may not be inappropriate to the present subject. A healthy boy, about fifteen years of age, had been exposed to a snow storm in last January. When discovered, his feet were frost-bitten, and were then very injudiciously put in warm water. In this state he was thrown across a horse, and, without a saddle, rode about thirty miles. A spontaneous separation commenced in a week or ten days at the ankle-joint, and, in consultation with the faculty, it was determined to remove both legs below the knee. The circular operation was performed on the left leg, and when the hæmorrhage was secured, the right was also removed in the same manner; both amputated in the space of about two hours. The patient complained more during the second amputation than the first, but his system suffered comparatively less from the last. It being a fair case to test the difference between torsion of the arteries and ligatures, the attempt was made on one stump to secure them with the forceps of AMUSSAT and GRAEFE,* but owing to the difficulty of drawing them out, a difficulty peculiar to this amputation, and which the most experienced surgeons have acknowledged, it was reluctantly abandoned, and ligatures were applied to the vessels of each leg. The stumps were wetted frequently with the chloride of lime, the first dressing removed on the eighth day, adhesive plaster employed but *twice* in the after-treatment, and the chloride freely used. On the *tenth* day after the operation, the patient rode the distance of six squares of our city, and on the *fourteenth*, in less than *two weeks*, he went into the streets of his own accord.

In another case of amputation, (of thigh,) also for sphacelus, under the same treatment, the patient went into the kitchen, a distance of about twenty yards, on the *twelfth* day after the operation.

If it be now considered that these operations were performed for the worst causes of amputation, viz. gangrene and sphacelus; and that of one hundred and twenty-three wounded soldiers thrown into a military hospital,† forty-two were cured and able to reënter the army, and thirty-eight were nearly well, in all eighty cases, in the space of two months, the dressing of whose wounds was chiefly the chloride of lime and soda, a sufficient estimate may be formed of the utility of the chlorides in the treatment of wounds and amputations, to claim some attention in the operations of surgery.

* A description of the same forceps is claimed by Professor N. R. Smith, as his own invention.

† That of the Sappers, at Warsaw, to which the author was attached.

Augusta, June, 1834.

ART. XI. *Case of Wound of the Genitals.* By JAMES B. M'JUNKIN, of Lexington, Georgia. [Communicated by S. H. DICKSON, M. D. Professor of the Institutes and Practice of Medicine in the Medical College of the State of South Carolina.]

ON the night of the 14th of July, 1832, J. A. æt. 39 years, was attacked by a ruffian, who, aided by two negroes, seized him while asleep in his own bed, held him fast, and committed upon him the inhuman outrage which I am about to describe.

Grasping the scrotum with his left hand, he passed his knife through it posteriorly, cutting it close to the body, on the right side. This incision, which was nearly transverse, divided the urethra and the greater part of the crura of the corpora cavernosa penis, leaving the anterior face of the scrotum attached to the under side of the penis unhurt. The point of the instrument was directed inward and upward in the right groin, and brought out a little lower under the left. The spermatic cord of the right side was severed at the same time just above the epididymis. A second incision was then made, two inches and a half in length anteriorly, meeting the former at the right of the root of the penis, and carried in a direction toward the superior spinous process of the right ilium; this was not deep enough to wound the left spermatic cord, but merely penetrated the skin. A small angular piece of integument was thus left undivided by the knife, on the left side of the penis. This was lacerated by dragging forward the scrotum; the skin of the penis was inverted over the glans, and the member denuded, and the right testis cut and torn off. The left testicle, now completely exposed, was retracted into the groin.

In this situation J. A. was found by Dr. POND and myself, who saw him three or four hours after the receipt of the injury. Dr. HILL was also subsequently associated with us in the treatment of the case. The patient had lost much blood, but the hæmorrhage had now ceased. He suffered much pain, which was, however, entirely relieved on our dividing the inverted fold of skin which lay over the spermatic cord and left testis, and in contact with the latter. The wound was so extensive that but a small portion could be covered by integument. A narrow strip of lint, spread with simple cerate, was rolled around the denuded penis, and the parts covered and protected with finely carded cotton. The daily renewal of these dressings was followed by great pain of the testicle, which would continue some hours. The escape of urine at the wound in the urethra also occasioned great irritation and suffering, the patient refusing obstinately

to submit to the introduction of a catheter or bougie, which was urged upon him. About the fifth day the urine found its way through its natural channel, the edges of the wound having coalesced; but this union gave way again on the occurrence of nocturnal involuntary erections. A few days afterwards these ceased to happen, and permanent reünion took place; but, owing to some irregularity in the manner of healing, there still remains a degree of narrowness at that part of the urethra, and some obstruction to the free passage of urine. On the third day there supervened much febrile excitement, with stupor and soreness of the abdomen; but these threatening symptoms disappeared under the employment of the lancet and other ordinary antiphlogistic remedies, and the patient was discharged in about ten weeks.

In Mr. A.'s present condition, the parts exhibit the following aspect. A pretty strong, smooth, elastic envelope now encloses the testis, supplying the place of the scrotum. This sac is destitute of hair, and is not at all rugous. The testicle having suppurated at one small spot, the sac is united to it by the cicatrix which formed on its healing, and in consequence of this adhesion is not permitted to descend, but remains near the groin; a situation much exposed to accident, and where it is often hurt. A tense, smooth surface covers the membrum virile, resembling a cicatrix from a superficial burn. The mucous fold of the prepuce having been detached from its cutaneous prolongation, is coiled behind the glans, giving the appearance of a double corona or ring. Adhesions and contraction of the cellular tissue, especially at the posterior extremity of the penis, greatly prevent the erection and elongation of the organ. This is particularly obvious at the wound of the urethra and under the ramus of the pubis, where the penis appears as if tied down with a cord, occasioning irregular incurvation posterior to the place of the incision. A condition resembling chordee also existed for some time after the parts were healed, causing much pain and disappointing his attempts at copulation, but by dividing the frenum preputi, this impediment was much diminished, though not entirely removed.

He now enjoys a pretty good state of health, being able to attend to his usual avocations, but is easily liable to a sense of fatigue in the lumbar region. The propensity for venereal gratification is perhaps as strong as ever, but the actual enjoyment is much impeded by the state of the organs above described.

REVIEWS.

ART. XII. *Surgical Essays, the result of Clinical Observations made at Guy's Hospital.* By B. B. COOPER, F. R. S., Surgeon to Guy's Hospital, Lecturer on Anatomy, &c. &c. &c. London, 1833. pp. 281, 8vo.

THERE are few works possessing more interest for the profession than those which detail with accuracy the result of hospital practice. They furnish us with a clear view of the existing state of medical knowledge among the distinguished practitioners of the age and country in which they are written; they furnish the best tests for ascertaining the comparative merits of conflicting doctrines, and when measures are exploded and their teachers no more, they remain as the most efficient materials in the hands of the historian of the science, for determining the extent of gratitude due by posterity to those who have truly aided the cause of humanity. In France, of late years, much has been done in this department; cases are detailed with the utmost care, and the appearances after death are described with a degree of minuteness that seldom leaves any thing to be desired which can be known in the existing state of physiology. These narratives, given by men of deserved eminence, are drawn up under the eyes of numerous and competent observers, and are afterwards laid open to the rigorous censorship of rivals who seldom leave untouched a single debateable point either in fact or theory. The consequences of this system are obvious; French hospital practice is much better known abroad than that of any other country; the clinical observations made at L'Hotel-Dieu, La Pitié, La Charité, the Hospital of Montpellier, &c. are mostly within our reach; the vast accessions of pathological knowledge thence derived are universally acknowledged, and of the value of the therapeutical treatment pursued in those institutions all are enabled to judge for themselves.

Our information with regard to the medical institutions of Great Britain is much less complete, both as to the number of cases published, and as to the fulness of the detail, and we hail the appearance of this little work, by the nephew of Sir ASTLEY COOPER, because it in part supplies the deficiency. These essays consist essentially of a series of highly important cases, covering considerable

ground in some of the most interesting departments of surgery; they treat of fractures, diseased joints, dislocations, and wounds of the abdomen. The arrangement of the work deserves decided praise. Each essay is preceded by some short notice of the general principles which should govern the treatment of the class of accidents of which it treats; then follow numerous cases illustrative of those general principles, and to almost every case is appended some remarks with regard to its especial application. A collection so various in its character scarcely admits of analysis, and we shall attempt nothing further than a running commentary upon such passages as strike us in a novel or particularly interesting point of view.

The author commences with some remarks "*On the Physiology of the Growth and Reparation of Bone.*" Referring to his work on anatomy, previously published, for a more detailed account, (which, unfortunately, is not a great deal more detailed,) of the physiology of the osseous tissue, he presents us with seven pages on the application of this subject to the treatment of fractures. We are happy to observe that the terms *table* and *fibre* are rarely employed in this article, nor is much said of rings or plugs of callus in the cure of fractures. We wish not to express an opinion that these terms, when attended by the necessary definitions, are wholly inapplicable to the structure of bone, but mere names have often exerted an important influence upon practice, and the crude and mechanical notions of the earlier anatomists, together with the distant and almost wild analogy of DUHAMEL, have associated in the minds of many the ideas of the tabular and fibrous arrangement of bone, with certain forms of inorganic or of vegetable matter, to the no small prejudice of the treatment of its accidents and diseases. The truly cellular structure of all parts of the skeleton, inferred by HALLER, more clearly described by HOWSHIP, BICHAT and his followers, and experimentally proved by SCARPA, is clearly enforced by Mr. Cooper, in terms which at once foreclose the much vexed question as to the comparative importance of the periosteum, the medullary membrane, and the solid texture in effecting the reparation of bone in fractures. He speaks of the internal and external periosteum and the cellular tissue connecting them collectively by the one general term *periosteum*, (p. 9,) and he considers it as enclosing the bone in the same manner in which the neurilema encloses the substance of a nerve, or in which the cellular sheath and its septa enclose and divide a muscle, its fibres, and the globules of which those fibres are composed. Nor does he neglect the facts, that the osseous tissue, thus constituted, is subject to all the vital laws which govern other parts, and that in cases of

necessity other parts and organs may be converted into periosteum, and contribute to the reproduction of osseous matter.

In speaking of the gradual development of the various parts of the skeleton, so strictly regulated by the increasing wants of the animal—those first employed being always first perfected—he rejects all explanation founded on that metaphysical abstraction of JOHN HUNTER, “*the stimulus of necessity*,” and advances the position which, if memory serves us, is also advocated by Sir Astley, that the exercise of the function of a part is the proper stimulus to ossification in that part. It is to be feared that in assuming this position he has fallen into the very error he endeavored to avoid, and has trespassed a little beyond the barriers which should limit physical research. Be this as it may, we feel bound to contend against the practical directions given in accordance with this supposed law. He recommends that in pseud-arthritis, the limb should be supported by a suitable apparatus, and the patient directed to employ it as usual, in order that the shocks, the pressure, the “stimulus of exercise,” should bring about the ossification of the callus. This is an error, even in the application of the law, for the effect of such treatment is evidently to cause repeated and irregular motion in a part designed to be constantly in a state of relative rest—to cause the fragments of a bone to perform functions for which nature never designed them. Motion in an ununited fracture can seldom be entirely prevented by mechanical contrivance, while the limb is exercised with any degree of freedom. Now, motion being the proper function of a joint, the law laid down, if it be general in its application, should lead us to infer that the treatment prescribed would tend to produce a joint, or, in other words, that it should diminish rather than increase the strength of union in a pseud-arthritis. Experience has taught us that such is the effect in many cases, and if the plan prescribed does occasionally answer the end in view when the union has already acquired considerable firmness, the fact may be explained on different principles. These remarks are in strict accordance with the views of Mr. Cooper himself. “The elasticity of cartilage,” he says, “is maintained by the constant concussion produced by exertion,” (p. 5,) and it is singular that he should not have perceived the inconsistency between the proposition above stated, and the practice which he has founded on it. The subject is an important one, and we may be excused perhaps for one additional remark. There is no rule of practice better established than that repose of the fragments is necessary to the union of a fracture, and this fact should never be lost sight of when we attempt the cure of pseud-arthritis by producing

friction between the extremities of the bone. The proper degree of irritation once effectually produced, it is wholly unphilosophical to continue the painful and repeated frictions sometimes employed, which must retard instead of accelerating the ossification.

The next subject taken up by Mr. Cooper is that of "Fractures in General," under which head he includes many particular fractures, a very considerable number of cases in full detail, and indulges in many collateral remarks on injuries of the viscera resulting from fractures of the cranium, ribs, and pelvis; the whole subject being embraced in one hundred and twenty pages. Of course little space is allowed for dilating on general principles, and too much is frequently sacrificed for the sake of brevity. The cases constitute the most valuable part of this as of all the other essays.

Our space compels us to pass rapidly over the surface of the work, confining our view to such points only as rise up in strong relief and enforce attention. After a very hasty outline of the distinctive marks of compression, concussion, inflammation, and abscess of the brain, occasioned by fracture of the cranium, the author says—

"The treatment of both concussion and compression are the same so soon as reëction has taken place; which, however, is sometimes so slow in making its appearance, that it becomes necessary to employ stimuli, to restore the patient sufficiently, that he may be enabled to bear the means necessary to be employed." p. 13.

Then follows an enumeration of the vigorous antiphlogistic and concomitant treatment required in the sequel, such as a purge of calomel, bleeding *from the temporal artery or jugular vein*, cold to the head, sinapisms to feet, small doses of sulphate of magnesia frequently repeated until the bowels are freely opened, and, finally, a blister to the scalp, if the application of cold proves inefficient. Mr. Cooper then demands, "If all these means fail, under what circumstances is the trephine to be applied?"

This complete intermingling of accidents so dissimilar in character as simple concussion and simple compression of the brain, is to us somewhat startling. In the former, the first indications of treatment are obviously the restoration of the nervous energy, diminished by the direct effect of the injury at the moment of the accident, and kept up simply by the consequent weakness of the part without any continued mechanical cause. If the powers of nature are insufficient to accomplish this purpose without assistance, it may be proper sometimes, but certainly rarely, to call in the aid of stimuli; when reëction is once established, the measures laid down, with the exception, perhaps, of the choice of vessels for bleeding, will be

approved by every one. But in the second class of accidents, we have the action of a continued mechanical cause, which, in a large majority of cases, can only be opposed by mechanical treatment. If the symptoms of compression are clear and decided before reaction, what is to be gained by delay? Above all, upon what principle can we defend the exhibition of stimuli to favour reaction under such circumstances? When reaction comes on, and is followed by urgent symptoms of compression, if the cause and location of that compression can be detected, every thing calls for promptitude in the employment of mechanical means, without waiting to ascertain whether the measures laid down for combating reaction will fail or not. We believe that the trephine is employed unnecessarily in many cases, but it is more than probable that the mortality following the operation, when imperatively demanded, is in no small degree owing to the tardiness of many operators. Without feeling disposed for a moment to charge the author with a disposition to unnecessary delay in practice, we cannot but consider the work calculated to lead other less experienced men into this fault. The error is almost a necessary consequence of the attempt to lay down in four short pages the distinctive characters and proper treatment of a class of accidents of the most difficult and perplexing nature, and which could not be properly discussed within the space devoted to the whole essay.

In the remarks upon fractures of the pelvis there is nothing to arrest us particularly, but among the cases appended to this section on injuries of the flat bones, are several of very high interest. The first is a case of fracture of the basis of the cranium, accompanied by slight depression of a portion of bone at the posterior, inferior angle of the right parietal bone. The symptoms of compression were urgent. A fragment was removed by Hey's saw, and the remainder was elevated. Some overlapping of the fragments continued, but all signs of compression disappeared, and though the patient was afterwards strongly threatened with inflammation of the brain and its meninges, he promptly recovered. This case beautifully illustrates the fact that a very slight depression may sometimes produce very serious danger, and that fractures confined almost entirely to the basis of the cranium, are not always beyond the reach of mechanical relief. The next case, and the remarks on it are intended to show that a serous discharge from the ear in injuries of the base of the brain, renders the prognosis more favourable. The third is very singular—a gig wheel passed over the head of the patient, and the occipital bone was completely divided from its apex to the foramen magnum in a

perpendicular direction! doubtless by the effect of the side-thrust of the lateral arches of the cranium, constituting one of the varieties of contre-coup. The case terminated in death from hæmorrhage on the base of the brain. Passing over a case of hernia cerebri, with some interesting remarks which we cannot pause to analyze, we find a very interesting operation for a disease of the os frontis produced by several blows upon the part occurring at distant intervals of time, and giving rise to epilepsy and partial paralysis; a perfect cure was effected by the removal of the diseased bone at least one year after the last accident. The inner table of the cranium was greatly and very unevenly thickened, and rendered like ivory in hardness. This section closes with two cases of fracture of the pelvis and one of diastasis of the symphysis pubis. The last case was productive of permanent irregularity of the superior anterior spinous processes of the ilium, but the consequent lameness was slight.

The succeeding section treats of *fractures of the spine*. Mr. Cooper, in speaking of operations for elevating depressed portions of vertebra in cases of compression on the spinal marrow, such as have been performed by Mr. CLINE and Mr. TYRRELL, but have been most strenuously opposed by Mr. CHARLES BELL, expresses his belief of the general hopelessness of such cases, but thinks the operation sometimes warrantable. p. 40. We do not recollect that it has ever been successfully performed in America. Among the diagnostic signs of injury to the spinal marrow, Mr. Cooper enumerates a suffusion of the countenance, a symptom that he has not seen mentioned by other authorities, and which he attributes to the imperfect decarbonization of the blood consequent upon the embarrassed state of respiration. This symptom has been strongly marked in several cases which we have seen of concussion of the spine high in the dorsal region, but which have terminated favourably. In similar injuries about the lower dorsal and lumbar vertebra it has not been remarked, and it would be interesting to know if it is attendant upon fracture with depression in those portions of the column. Among the cases narrated is one in which there existed no fracture, but a laceration of the intervertebral substance between the fifth and sixth cervical vertebra, and death followed the usual train of symptoms attendant on fracture, although there was no lesion of the spinal marrow, and but slight marks of inflammation of the dura mater.

On *fractures of the ribs and sternum* there are a few remarks and some interesting cases which we pass unnoticed that we may not prove too prolix, although some of the aphorisms of the author afford room for debate. Under the head of *fractures of the short bones*, how-

ever, there is detailed one case so extraordinary that it must be mentioned. It is that of a woman thrown down by a horse in full career.

“All the soft parts of the right side of the face were detached from the bones, which were most extensively fractured. The lower jaw was fractured in two places, the superior maxillary and palate bones were broken through their palatine processes, so that the roof of the mouth fell upon the tongue, and a fissure extended through the body of the superior maxillary bone, into the antrum, and upwards into the orbit; the malar bone was broken through, so that the zygomatic arch was flattened; the bones of the nose were driven in, and in fact, it may be said that every bone on that side of the face was fractured, and many comminuted.” p. 60.

In this horrible case the comminuted portions of bone were removed, the side of the face denuded of its integuments, which are still preserved in the museum of Guy's, was covered with lint and kept cold by allowing water to fall constantly upon it. Antiphlogistic measures were steadily pursued, and the patient recovered “without a single bad symptom supervening.” Numerous portions of bone, however, exfoliated, and protracted the cure.

Mr. Cooper next proceeds to give some general observations on fractures of the long bones, and some of his remarks are highly important. He particularly blames the unreasonable habit of most surgeons in giving preference to one particular machine or position in the treatment of all the varieties of fracture which may occur in any one bone. There are indeed but few among the vast variety of contrivances for the treatment of fractures that may not prove occasionally valuable, and there are certainly none which enjoy superior merit in all the accidents of this nature occurring in the limb or part for which they are designed. The surgeon who would invariably employ either of the modifications of the splints of WHITE, DESAULT, or BRUNNINGHAUSEN, in all fractures of the thigh, whether seated just above the condyles, just below the trochanter minor, or in the middle of the shaft, would lay himself open to well-deserved censure.

In speaking of fractures of the femur within the capsule of the hip-joint, he defends the peculiar views of his uncle, upon the possibility of bony union in such cases, against the hostile reasonings of Mr. EARLE. We shall not enlarge upon this much-vexed subject, but cannot forbear the remark that the weight of the thirty years experience of Sir ASTLEY COOPER, great as it unquestionably is, loses a portion of its value, when it is remembered that the plan of treatment pursued by that surgeon is not at all calculated to preserve that accurate coaptation and permanent immobility of the fragments so necessary to the accomplishment of complete reünion in any fracture, how-

ever situated: and although the practice of placing the limb in a gently-flexed position upon a bolster and pillow may be a very comfortable one in hopeless cases, we cannot regard it as calculated to reduce the consequent lameness to a minimum even when the union is ligamentous. Sir Astley admits that in fractures of the neck of the femur unattended with complete disruption of the periosteum, bony union may take place; but when Mr. B. B. Cooper asserts that all the cases brought forward in opposition to the views of the former surgeon are of this character, we conceive that he begs the question, for according to our memory, the remarks of M. Roux and others who have taken part in the controversy, by no means permit the establishment of this fact beyond the possibility of doubt. Without attempting to pronounce a decision on the question at issue, we may mention that we have certainly seen an undoubted case of fracture within the capsule with very considerable shortening and eversion of the limb, and consequently with complete rupture of the periosteum, cured at the Pennsylvania Hospital without material lameness or perceptible extensibility of the bond of union, by means of *PHYSICK'S* modification of Desault's splint; a result hardly to be expected in treating any case treated without the aid of any apparatus, as is recommended in the work before us. There is a very interesting case given by the author, in which the periosteum was so little injured that the coaptation of the fragments continued perfect. The limb was not confined, but was on the plan above noticed, and at the end of fifteen days when the patient died, the usual cup and ball pseud-arthritis peculiar to this fracture was already far advanced, showing the injurious effect of motion under the very circumstances which are acknowledged on all hands to admit of bony union. p. 72.

At page seventy-three we are presented with one of the rarest accidents of the femur; namely, fracture detaching the trochanter major from the body and neck of the bone. After some time and much difficulty the character of the accident was detected by means of the contracted and knotty appearance of the gluteus maximus muscle, and coaptation was so nearly completed and maintained, by attention to position and the application of compresses and bandage, that scarce any trace of lameness remained. The case is one of very high interest, and reflects great credit on the surgeon. We are the more anxious to acknowledge this, because we are now about to enter upon the description of accidents touching the mechanical treatment of which there can be little accordance between the English and American schools of surgery. The influence of the prejudice of *POTT* in favour of an undue dependence on mere position in fractures, and a

certain degree of national antipathy to French surgery, have thrown the profession in Great Britain far behind the rest of the world, in the management of fractures requiring continued extension, and though both these causes have almost ceased to operate within the last few years, long-continued habit renders the necessary reform but too gradual in its progress.

"When the fracture is very oblique," says Mr. Cooper, when speaking of fractures about the middle of the shaft of the femur, "it almost invariably requires the straight and continued extended position to maintain the fractured extremities of the bone in apposition; but on the contrary, when the fracture is very transverse, the surface of the upper fractured portion offers a sufficient and convenient obstacle to the lower portion being drawn upwards and inwards by the muscle." p. 78.

To the first clause of this sentence almost every American surgeon will yield a ready assent, and it is only to be regretted that the requisition is not so strictly attended to, as might be thought desirable, even in the cases afterwards detailed. But with regard to the second clause we cannot omit some remarks, in which we are compelled to disagree not only with Mr. C. but with the whole weight of systematic authority. In the first place then we do not believe that it is possible to determine, except perhaps in cases of great emaciation, when a fracture in the middle of the shaft of the femur is really transverse; unless it is assumed that the absence of longitudinal deformity is a proof of the transverse direction of the fissure, and the presence of such deformity an equally certain indication of its obliquity; neither of which positions is tenable. A limb may retain its full length, after very oblique fracture of the shaft of the femur, in consequence of the feeble action of the muscles produced by the collapse in severe injuries, as we have seen in a case in which the near approach of the superior fragments to the skin, consequent upon extensive laceration of the muscles, placed the character of the accident beyond a doubt. We have also met with a case of complete comminution of the femur from within three inches of the trochanter minor to a point about equally distant from the condyles, unattended with any shortening of the limb. In neither of the cases was it possible to account for the absence of overlapping by supposing the soft parts to have lost their contractile power permanently, for they terminated favourably without lameness.

In the second place, supposing the fracture to present every symptom of a transverse direction, nay, even granting that it is absolutely proved to be so, there is no efficient protection against longitudinal deformity, without the aid of mechanical measures. If no attempt is

made to retain the proper direction and length of the limb, by other means than simply laying it in a flexed position, or placing it on an inclined plane, the bone is constantly liable to lateral derangement from slight changes of posture, or from unequal or convulsive action of the muscles, under which forces the ends of the fragments are rendered relatively oblique, although they continue perpendicular to the axes of the corresponding fragments. Again, supposing the parallelism of the extremities to be steadily preserved, the constant, though slight rotations of the limb which cannot be prevented, have a tendency to twist the fractured surfaces in one direction or another, and may very readily destroy their apposition. We have indeed seen cases of temporary interlocking of the fragments, preventing not only the shortening of the limb, but even the eversion of the toes, and it is evident that this *may occur* as well in oblique as in transverse fractures. In nine cases out of ten, the mere attempt to determine the direction of the solution of continuity would destroy the correspondence between the ends of the bone in transverse fractures. We have carefully observed at least sixty cases of fractures of the shaft of the femur, occurring during the last fourteen years, with reference to this particular question, and in no instance have we noticed a case which did not sooner or later require permanent extension and counter-extension. Even supposing the general impression on this subject to be correct, a moment's thought would show that the extended position is peculiarly adapted to transverse fractures, on the very principle laid down by Mr. Cooper himself. Here, on the hypothesis, there would be a disadvantage in the double-flexed position, for the apposition of the fragments effectually resisting the disposition to shortening, the whole force of the muscular contractions tend to increase the pressure which he regards as so favourable to ossification, and surely there can be no more certain means of preventing every other species of deformity than the application of inextensible extending, and counter-extending bands, without force, but with sufficient firmness to prevent all changes in the direction of the limb. This distinction in practice between transverse and oblique fractures of the femur, has been copied from work to work without sufficient examination, and is calculated to deceive the inexperienced. We can see no advantage in the knowledge of the direction of the fracture; the proper rule of treatment is a plain one. If the limb retain its length, it should be prevented from contracting; if it be shortened, it should be brought down to its correct dimensions, and both these ends are best accomplished by placing it in the straight position. In fractures of the tibia, where the outline of the bone is easily felt, and its dimensions are greater, the distinction is much more important.

Among the curious cases of fractured thigh narrated in this section, there is one of threatened pseud-arthritis, in which the propriety of excising the extremities of the bone was discussed in consultation, and its performance submitted to the judgment of the patient. Pressure on the seat of fracture was twice ineffectually made by means of a leather strap and buckles! and was finally relinquished in consequence of the usual inconveniences of partial ligatures upon a limb. What most astonishes us in this case is the proposal of so terrible and doubtful an operation, before the trial of frictions of the fragments on each other, stimulation of the neighbouring parts, seton, or any of the now well-known and often highly successful plans of treatment for pseud-arthritis! It is an instance of the injurious effect of the application of hypothetical ideas to practice in preference to the results of actual observation. More than eighteen months after the accident, the union being still incomplete, the patient was ordered to use the limb, in order to effect "perfect consolidation, by inducing earthy deposition through the natural stimulus to its growth; namely, *motion and pressure!*" The case is still pending, and the result, consequently, can only be inferred.

In the remaining details with regard to fractures of the inferior and superior extremities, we meet with much deserving of notice, and the cases possess considerable interest. The remarks on the pathology and diagnosis are often important and valuable, and the mechanical treatment throughout seems to be regulated upon principles similar to those laid down by Sir Astley Cooper in his great work on Fractures and Dislocations; they differ widely from those most popular on this side the atlantic.

The essay on diseases of the joints occupies thirty-three pages, and contains, in addition to a very rapid, but clear outline of pathological principles, a number of cases in illustration of them. They are valuable, but offer too little novelty to detain us. That on dislocations is extended to ninety-three pages, and contains short notices, seriatim, of most possible accidents of this character. The general remarks in each section of this essay are avowedly quoted, chiefly from the great work of Sir A. Cooper on the same subject, which is already so well known to the profession that it is needless to attempt an analysis. The cases are numerous, curious, and interspersed with many pertinent commentaries, and the whole presents a general view of the opinions of the eminent surgeon just mentioned, which cannot but prove desirable to those who wish a compendious view of those opinions with novel illustrations, but without the numerous and costly plates of the original.

The work closes with a very short essay on wounds and injuries of the abdomen, chiefly important for the cases of rupture of the abdominal viscera without any wound of the parietes. In one most singular instance of this kind the kidney was extensively lacerated without the occurrence of any fracture or external wound, and the case proved fatal from the internal hæmorrhage which followed. Mr. Cooper observes that the collapse which follows laceration of a bowel is sometimes absent immediately after the accident, but appears immediately upon the extravasation of fæcal matter, of which the collapse is strongly diagnostic in such cases. Several instances are mentioned in support of this position, and one among others, in which an intestine was ruptured by a kick, in a scrotal hernial sac. Collapse and death from extravasation followed the reduction of the hernia. Upon this observation he founds this rule—

“A person having received an injury of the abdomen attended with symptoms of prostration, at the same time having a hernial tumour, that the contents of that tumour are not to be returned into the abdominal cavity; but that as soon as the reâction has taken place the strict antiphlogistic plan is to be adopted, leaving it to nature to repair the injury any viscus may have sustained; for should the contents of the hernial sack be injured, and even the intestine lacerated, as in this case, nature would immediately shut up the hernial from the general cavity of the abdomen, and the contents of the bowel would be poured out only into the sac, indicated by the sudden swelling of the part, and the relief experienced by the evacuation. A cure is then to be effected by opening the tumour, discharging its contents, and treating it as an artificial anus.” p. 277.

The greatest defect in this essay is the light manner in which the contusions of the abdomen not complicated with rupture or laceration of the viscera are noticed. Mr. C. acknowledges that they are sometimes productive of collapse, but remarks that they almost always recover under proper depletion *in anticipation of inflammation*, a measure of which he directs adoption immediately on the subsidence of the stage of depression, when the surface becomes warm; suggesting that stimulants may be given in some cases to bring about this condition. “No detail has been preserved of these usually trivial accidents.” Now, there are no cases more perplexing to the surgeon, or more deserving of close examination and research, than these very accidents. How often do we see patients who have been buried under masses of earth, or whose abdomens have been compressed by great weights, dying in collapse without any distinct marks of peritoneal or other inflammation, even though they survive forty-eight hours or longer; and how often on the contrary do severe blows, acting on a smaller portion of the parietes, but with no obvious lesion

of any viscus, occasion death in half that time, from collapse equally profound, yet causing the intestines to become agglutinated and the abdominal cavity filled with masses and flocculi of coagulated lymph! Can stimuli be equally proper under circumstances so widely different? If not, how are we to perfect our diagnosis? We do not presume to answer either of these questions, but the subject is much in want of further elucidation. It should always be borne in mind in the treatment of surgical injuries, that collapse may be produced either by such general mischief to the whole nervous system as may directly oppress all the vital operations, or from such an excessive irritation as may concentrate, as it were, the whole vital energy of the system upon a point.

In taking leave of the work of Mr. Cooper, we cannot but express our regret at its want of clearness in style. With regard to matter, much might have been added in the way of praise and dissent, but we sincerely hope that other occasions will be offered from the same quarter hereafter, and that the clinical observations of London hospital practice may continue to be made public from time to time in a manner equally clear and impressive. One word to those who enjoy similar advantages in our own institutions. Why are the results of the practice of our own hospitals confined almost within the limits of their walls? The work of Mr. Cooper, while it informs us how much we might communicate with advantage to the profession, furnishes us in its arrangement with an excellent model for imitation.

R. C.

ART. XIII. *Leçons de Clinique Médicale faites à l'Hôtel-Dieu de Paris*, par le Professeur A. F. CHOMEL, Recueillies et Publiées sous ses yeux, par J. L. GENEST, D. M. P., Ancien chef de Clinique Médicale de l'Hôtel-Dieu, &c. (Fièvre Typhoïde.) 8vo. pp. 548. Paris, 1834.

Clinical Lectures on Typhoid Fever, delivered at the Hotel-Dieu of Paris. By Professor CHOMEL, Collected and Published under his Inspection, by J. L. GENEST, M. D. &c.

UNDER the denomination *typhoid*, Professor CHOMEL includes all the severe grades of continued fever, in consequence of the presumed analogy which exists between their general phenomena and those of the typhus fever of camps. However dissimilar, he remarks, the several varieties of continued fever may appear in many of their symp-

toms, yet in their general phenomena and progress they present an identity of character; which identity is still further established by the lesions discovered after death in the intestinal canal. These lesions, which consist in a morbid state of the glands of Peyer and Brunner, conjoined ordinarily with tumefaction and other diseased conditions of the mesenteric glands, are present, according to our author, in no other affection, while they are almost invariably met with in the fever under consideration, whatever may be the form which it assumes, whether inflammatory, bilious, mucous, adynamic, ataxic, or nervous. All other pathological lesions detected in typhoid fever, of whatever character, or wherever seated, M. Chomel views as merely accidental complications, the presence of which may, it is true, modify to a certain extent the symptoms of the case, but their absence does not in the least influence the peculiar characteristics of the disease. It will be perceived, therefore, that the typhoid fever of our author corresponds very nearly with the *entero-mesenteric* fever of PETIT and SERRES, the *exanthème intestinal* of M. ANDRAL, the *dothinentérite* of M. BRETONNEAU, and the *follicular enteritis* of various other writers.

The following summary of the author's description of the lesions of the intestinal follicles discoverable after death from typhoid fever, will enable the reader to form a judgment of their character.

The first alteration which the follicles of the intestinal mucous membrane experience is their tumefaction, which is occasioned by the formation, beneath the mucous membrane, of a yellowish-white matter, somewhat friable, and which gives to the cluster of follicles constituting the glands of Peyer the appearance of a patch, and to the isolated follicles or glands of Brunner the form of a large pimple of a colour more or less white, and which many pathologists have improperly denominated a pustule. These changes, which do not preserve very decidedly their characteristics beyond the twelfth or fifteenth day from the commencement of the disease, are succeeded, in the majority of cases, by ulceration. This commences sometimes at the mucous membrane and gains gradually the white matter of the tumid follicles, and in other cases it begins by a softening of the latter, which becomes detached from the parts with which it is in contact, and produces subsequently the destruction of the mucous membrane. These morbid alterations commence almost invariably in those follicles which are nearest to the ileo-cæcal valve. About the eighth, fifteenth, or twentieth day of the disease, we find, in a few instances, either at the surface of the tumefied patches, or what is more frequently the case, upon the glands of Peyer, the softened mucous

membrane, of a colour more or less intense, detached from the subjacent tissues and presenting numerous perforations, which are in fact the orifices of the follicles greatly enlarged. In proportion as the tumefied patches or their remains gradually disappear, in consequence of the progress of ulceration, or by a species of gangrene, the edges of the ulcers which are in consequence produced, become flattened, approach each other from below, and present a condition very favourable to cicatrization, or they acquire, on the contrary, a morbid thickening, caused by the hypertrophy of the sub-mucous and muscular tissues, and present an appearance which has considerable analogy with that of a tissue in a state of scirrhus. The ulceration of the tumefied patches extends not only in breadth but also in depth, and invades successively the sub-mucous and muscular tissues, and in some cases even the peritoneum, causing a perforation of the intestine, which may also be produced by sphacelus of the peritoneal coat. In the most favourable cases cicatrization of the ulcers takes place. Ulceration does not occur in all the tumefied patches; there are a certain number which return to the normal state, without ulcerating, by a species of resolution, the effused matter being absorbed. At the same time many of the patches present a dark blue or slaty colour; which colour has also been observed in subjects that have died of other diseases than typhoid fever, or a long time after having been affected with this disease. The foregoing alterations in the condition of the mucous follicles of the intestines M. Chomel declares to be peculiar to typhoid fever; in almost all cases of which they are to be met with. Of forty cases of the disease which terminated in death at the Hotel-Dieu, within five years, in every instance they were detected to a greater or less extent, and in a more or less advanced stage.

Notwithstanding, however, our author insists upon the invariable presence of the above lesions of the intestinal mucous follicles, and of tumefaction and other morbid changes in the mesenteric glands in typhoid fever, viewing them, in fact, as an essential characteristic of the disease, he does not consider them as the cause of the symptoms during life, with the exception perhaps, of the diarrhœa, pain of the abdomen, and gurgling noise produced when pressure is made with the hand upon the lower portion of the abdomen, especially upon the right iliac region. Nor does M. Chomel consider them to have any influence whatever upon the violence or progress of the disease. He sets them down as effects merely of the general morbid condition under which the patient labours.

“The lesions,” he remarks, “of the intestinal mucous follicles and of the

mesenteric glands do not present the same degree of development in every case. In some, all the grouped and isolated follicles are tumefied or ulcerated, in others there are only a certain number which are altered in structure; twenty for example in some cases, in others fifteen, and in others only five, three, two or even one, and that sometimes only partially. Now if all the symptoms of the disease and its severity depended upon the lesion of the follicles, there would certainly exist a relation between the phenomena during life and the extent of the lesions discovered after death; while also the violence and danger of the case would be in direct proportion with the number of the follicles affected, and the extent of the alteration in each. But it is shown by accurate observations that, in one patient the disease will show itself with symptoms of the utmost severity, and after death but a very small number of follicles will be found affected; while in another patient, the typhoid symptoms will present but a very moderate degree of violence, but should he die in consequence of the accidental occurrence of another disease, we shall find the intestinal follicles presenting the most extensive lesions."

Among the accidental lesions, or those which appertain less especially to typhoid fever, M. Chomel enumerates ulcerations of the tongue, fauces and œsophagus. Redness of the mucous coat of the stomach varying in intensity in different cases; but which the author maintains we have no evidence to attribute positively to inflammation. Softening of the mucous membrane at the great extremity of the stomach; in a few cases softening of the greater portion of the mucous coat, and still more rarely softening of all the coats. Softening of the gastric mucous membrane to a greater or less extent was present in fourteen out of forty-two cases. According to M. Chomel it is not met with more frequently after death from typhoid fever than in subjects who die of other diseases. Occasionally thickening or thinning of the mucous membrane was detected. In the intestines the duodenum and jejunum, presented in the majority of cases, a deeper red colour than the remaining portion of the intestinal tube. This redness was mixed with a shade of yellow, which diminished ordinarily as we proceed from the jejunum, but which in some cases continued even to the ileo-cæcal valve. The ileum was frequently increased in redness, sometimes throughout all its coats, presenting on the external surface numerous arborescences. Sometimes the redness was confined to the mucous coat; in this latter case the free edge of the valvulæ conniventes were occasionally of a very bright red. They appeared as though they had been stained by red blood coming from their vessels, but the redness was not removed by washing the parts in water. More frequently the redness of the ileum was disposed in zones, which were separated from each other by zones of equal breadth where the three coats were remarkably pale. The parts where the redness was the most

decided were in these cases ordinarily in those portions of the intestinal circuvolutions which occupied a depending situation, relatively to such as preserved a pale tint. In a considerable number of cases the half or two-thirds of the ileum were decidedly increased in redness, while the residue of the intestine remained comparatively pale; ordinarily the red portion was situated in the pelvis, while the paler remained in the abdomen. The increased redness of the mucous membrane was not more decided in the neighbourhood of the diseased follicles, than at a distance from them. The colour of the mucous coat of the large intestines offered fewer varieties than that of the small. It rarely presented any considerable redness throughout its whole extent; very often it was found covered with red spots, varying in size, which were sometimes of so deep a colour as to resemble ecchymoses. It is but seldom, according to our author, that that portion of the mucous coat of the intestines which separates the clustered or isolated follicles, is softened in so great a degree as is found to be the case in the stomach. In three out of forty-two cases the mucous coat of the small intestines was found reduced to the consistency of a layer of gum Arabic. In one case the mucous coat of the ileum was softened at some points, but not at those parts where the redness was the most vivid. In another the mucous coat of all the upper portion of the same intestine was reduced to the consistency of mucilage.

“We may conclude,” remarks M. Chomel, from a comparison of the symptoms during life with the lesions discovered after death, “that the different pathological conditions of the stomach, whether the state of injection, softening or the slaty colour which it sometimes presents, or finally the thickening of its mucous coat in subjects who have died whilst labouring under typhoid fever, do not manifest themselves constantly by any particular symptom previously to death, and that it is impossible to say from the symptoms of the case with certainty, whether any appreciable alteration exists in the stomach, or what is the nature of such alteration.”

The same, he adds, may likewise be said in regard to the lesions discovered in the intestinal tube.

In several instances a sanguineous infiltration of the intestinal mucous membrane was met with. In these cases the mucous membrane was double or even triple its ordinary thickness, and offered a very peculiar aspect, resembling somewhat a layer of jelly of a black, red or only rosy colour; having also its shining and tremulous appearance. If over the portions thus infiltrated with blood, the handle of a scalpel was passed with a moderate degree of force, from the pores of the membrane there was found to issue a fluid more or less red, and sometimes in considerable quantity, the membrane at the same time re-

turning to its natural thickness, and sometimes even to its ordinary hue. The parts thus engorged varied in extent in different cases from four inches to two or three feet. The redness was always continuous, and occupied the whole area of the intestine, the portions the most inferior presenting no difference from those situated above. In those instances in which the fluid infiltrated was of a light red colour and transparent, by the naked eye numerous small vessels of a deeper colour could be discovered permeating the whole of the affected tissue, the extremities of which would appear to terminate on the surface of the mucous coat. Of the seven subjects affected with typhoid fever, in whom after death the above lesions were discovered, two had experienced intestinal hæmorrhages, a third had discharged blood by vomiting; in two others the small intestines contained a quantity of blood, and the other two, so far as could be ascertained from the observations made at the hospital, had been unaffected with hæmorrhage.

After the mucous follicles of the intestines, the spleen, according to M. Chomel, is the organ most frequently found in a morbid state in those who die of typhoid fever. In almost every case the spleen was increased in size. Sometimes the increase was inconsiderable, at others the organ was double, triple, or even quadruple its ordinary size. Although the augmentation in size was generally most considerable in those subjects who died during the most acute period of the disease, before, namely, the twentieth or twenty-fifth day, yet no very great difference was observed between the bulk of the organ in those who sank during the first days of the disease and those who survived a somewhat longer period. Subsequently to the twenty-fifth day the size of the organ was in general reduced. To this, however, there were many exceptions. In a certain number of cases the spleen was not only increased in size, but also singularly diminished in density. Ten times it was found more or less softened, and thrice it was completely diffuent. In other instances, in place of being softened, it presented a degree of firmness that it rarely possesses during a state of health. This was generally found to be the case after the twentieth day, when the other organs were regaining their normal condition. The colour of the spleen was variously changed; no one, however, of these morbid states of the spleen is connected, we are told, with any particular symptom or form of typhoid fever.

Of the liver, the only morbid state which was observed after typhoid fever, sufficiently often to demand particular attention, was a softening, more or less considerable.

“The softening of the liver as well as the spleen,” remarks M. C. “was ordinarily accompanied with a softening of other organs and even of those which

are the most important to life. This fact proves that the softening was not the result of inflammation; for it would be difficult to conceive how so many important organs could at the same time be inflamed without life being instantly extinguished. We also perceive, in part at least, the reason why the lesions alluded to are not manifested during life by any particular symptom."

The changes observed in the state of the blood in those who die from typhoid fever are, according to our author, sufficiently distinct from those we observe ordinarily after other diseases to merit particular attention. More frequently the blood was black and completely diffuent; very rarely small fibrinous coagula were found in the heart, and still more rarely in the blood-vessels. In other cases, the blood, without being completely diffuent, was found in the heart or aorta in the form of coagula of a black colour, and very different from those we meet with in subjects who have died of other acute affections.

"The absence of fibrine in the blood of those subjects who die of typhoid fever is the most striking, and perhaps the most important modification which that fluid presents; the same has been observed in regard to the blood drawn from a vein during the life of the patients.

"Another alteration observed, but more rarely, in the blood of subjects who have died of typhoid fever, is the development of a quantity, more or less considerable, of gas in the interior of the blood-vessels, especially the veins. In some subjects, if we lay bare a large vein, at a part where it does not receive branches, we can often observe bubbles of gas, which may be made to move along the vessels, and are perceptible through its thin and almost transparent coats."

In these cases, it is remarked, the blood presents other traces of commencing decomposition. Often it resembles coffee-grounds floating in an oily fluid.

In numerous cases the consistency of the parietes of the heart was found decidedly diminished; in none did it appear to be increased. Sometimes the softening was to so great an extent that the muscular tissue of the organ broke down between the fingers with the greatest ease. In general this diminution in the consistency of the tissues of the heart coincided with the softening of the other organs. In other cases in which the diminished consistency of the muscles of the heart was not so evident, the organ was found in so flaccid a state that its parietes sunk together similar to those of a simple membranous bag.

In thirty cases in which the condition of the heart was noted with care, in four there was slight softening and discoloration of all the tissues, in three softening and discoloration of the left ventricle only, in one discoloration without softening, in seven flaccidity without softening, and in fifteen the heart was in a normal condition.

The colour of the lining membrane of the heart was sometimes of a brighter red than natural, in others the redness was more deep or even

livid more frequently, especially when accompanied with softening of the muscular tissue the lining membrane was almost entirely destitute of colour. In no instance did this membrane present the characters proper to inflammation; thus it was never found covered with pus or false membranes, nor presenting a granular appearance. In some cases the internal membrane of the heart alone presented an increase of redness, while that of the aorta and great arterial trunks preserved its normal hue. Frequently the internal membrane of the aorta was of a morbid redness, but the characters of this redness, according to M. C., were far from indicating it to have been the effect of inflammation. In no instance did it result from an injection of the capillaries, but seemed rather to be owing to the imbibition of the more fluid portion of the blood. It has almost always appeared to the author to be connected with the *putridity* of the blood which was found in contact with the membrane.

With respect to the lesions observed in the respiratory apparatus, the author enumerates œdema of the glottis, and occasionally ulceration laying bare the cartilages. The larynx, he remarks, was also occasional the seat of ulceration. The morbid appearances met with most constantly in the lungs were those which occur just before death, such as an engorgement at their posterior and inferior portions. In a certain number of cases this engorgement was accompanied with a degree of softening sufficient to allow of the finger penetrating with ease the tissues of the organ. In a few instances the lungs were affected with genuine pneumonia; sometimes the pneumonia was confined to some of the lobules of one lung, accompanied most frequently with suppuration. In other cases the pneumonia occupied an entire lobe; in this case the patient generally sunk before the occurrence of suppuration.

“Sometimes we observed an emphysematous or œdematous condition of different parts of the lungs, and finally in other instances a pleuritic effusion more or less considerable. In forty-two cases, all, with the exception of ten, presented a morbid condition of the lungs. In eighteen there existed engorgement alone or connected with softening; in three hepatization in the first degree; in two hepatization in the second degree and on a single side; in three lobular pneumonia; in two emphysema; in two œdema; and in two pleuritic effusion. These different alterations, however, remarks M. C. have but a very remote connexion with the typhoid fever, and seem to us to depend rather upon the state of debility in which the patient is sunk, which produces in him a greater susceptibility to morbid causes. In fact, this species of complication is never met with when the patient dies a few days after the attack of fever, but only at a more advanced period.”

The morbid alterations discovered in the brain after death from

typhoid fever, exert as little influence, according to M. Chomel, in the production of the phenomena of the disease, as those detected in the other organs.

The delirium, he remarks, which so commonly accompanies typhoid fever, is the most frequently unconnected with any appreciable lesion of the brain. We find, it is true, in a certain number of cases, two conditions of that organ which present a decided deviation from what is commonly considered its normal state; namely, the œdema of its membranes, and an appearance of red points throughout its substance when an incision is made into it.

“But,” he adds, “as these conditions occurred as frequently in those cases in which no disorder of the intellectual functions was present as in those where this disorder existed, and as they are as frequent in other diseases as they are in the disease under consideration, we can draw from them no positive deduction.”

The serous infiltration of the pia mater and arachnoides occupied most generally those parts which cover the hemispheres, but occasionally he found it also towards the basis of the brain. Sometimes there was a decided congestion of those membranes, but in examining with attention it was found to be ordinarily confined to the venous tissue, the great trunks of which were greatly distended. In a few instances the congestion was so great as to produce an effusion of blood into the tissue of the membranes to a considerable extent.

The brain was often slightly softened throughout; an alteration which M. Chomel conceives to be connected with the softening of the other organs so frequent in the disease before us. Finally, in some cases the brain appeared to be increased in density, but this alteration, if it be such, remarks the author, like the others was not connected with any particular period of the disease. Of thirty-eight cases in which the state of the brain was carefully examined, four presented injection of the meninges; seven œdema of the meninges; six slight general softening; twelve serous effusion into the ventricles, varying from a tea-spoonful to a table-spoonful; five presented bloody points throughout the cerebral substance; two abnormal density, and in fifteen there was no alteration whatever.

From the foregoing summary of Professor Chomel's autopsical investigations of typhoid fever, it will be perceived that he considers the whole of the lesions discovered after death to be altogether unimportant, either in explaining the causes concerned in the production of the disease, the character of its successive phenomena, or its mildness or malignity. Typhoid fever he conceives to be a certain

morbid state of the whole organism, dependant probably upon an altered condition of the fluids; the symptoms by which it is manifested being "the expression of the influence of the general morbid condition upon the entire economy and resulting from the disorder of the principal functions to which the disease gives rise;" in other words, that they appertain rather to the typhoid fever itself than to any organic lesion. The morbid appearances so commonly detected after death, M. Chomel seems to think, are produced secondarily by the action of the disease upon the organs. He admits, however, that it is difficult to explain by what mysterious influence many of these lesions, so different in their character, are produced in the present form of fever. All this may perhaps be very good pathology, but it appears to us to be any thing but clear and satisfactory.

Towards the close of the work M. Chomel enters into a series of arguments to prove the difference which exists between a primitive and local inflammation and one that is secondary and disseminated. According to his definition, an inflammation is primitive and local when it alone constitutes the disease, and occupies, continuously, a surface of greater or less extent—it is secondary and disseminated when it is the result of a morbid condition of the entire organism, and occurs at a number of different points between which the parts are in a normal condition. We believe it to be unnecessary to enter into any examination of our author's obsolete views on these particular points. His reasoning in support of them is altogether vague and inconclusive, and his illustrations, so far from strengthening his premises, are either mere assumptions, or at best require further evidence to establish their correctness.

As the terms typhus and typhoid are in themselves extremely indefinite, and have been applied to a great variety of diseases by different writers, many of which diseases have been shown to be very distinct in their pathological character, it is all-important to ascertain precisely in every case what are the morbid phenomena which they are employed to designate. Hence our author has, in the commencement of the work before us, very properly presented an admirable history of the disease denominated by him typhoid fever, in which the character and succession of the general symptoms are described with great minuteness and clearness. The great length of this precludes the possibility of our translating it entire, and no abstract of it would convey a distinct idea of the disease which it is intended to delineate. We prefer, therefore, to select the more prominent of the author's diagnoses, which will present, with tolerable accuracy, the general characteristics of what he terms typhoid fever.

"During the first days of the disease," remarks M. Chomel, "it is often impossible to determine positively whether it be typhoid fever or some one of those affections with which it more or less corresponds. In a number of cases, however, even from the very commencement, we may suspect the nature of the malady; thus, if it attack suddenly; if to the decided febrile symptoms there is joined, without our being able trace it to any appreciable cause, a permanent pain of the head with vertigo and a staggering gait, and this in a subject at the particular period of life we have indicated.* Particularly if he has inhabited but for a short time a large city, and if there is reason to believe that he has not already suffered from the disease,† in all probability he is labouring under typhoid fever. This may be decided with more certainty if, in addition to the first symptoms, there occur successively, after the second or third day, some one of the other symptoms most common in the disease, such as purging, prostration of strength, commencing stupor, and a discharge of blood from the nose.

"One of the most important phenomena of the typhoid malady is the duration of the fever. When febrile symptoms that we cannot refer to any appreciable lesion are prolonged beyond a certain period, eight or ten days, for example, we have serious cause for suspecting that they are connected with disease of the glands of Peyer.

"During the middle period, most frequently from the sixth to the twelfth day of the disease, we see appear certain symptoms which, in the greater number of cases, should leave no doubt in regard to the diagnosis, namely, meteorism of the abdomen, the typhoid eruption,‡ stupor, which in the majority of cases is considerable, epistaxis, and hæmorrhages from the bowels.

"At an advanced period of the disease it is still more rare that any doubt can exist as to the nature of the disease. If the phenomena proper to the first or second periods have been uncertain, this will not be the case with those which mark the third stage. Hæmorrhages from the intestines, the ulcerations which occur upon different parts of the body, involuntary discharges from the bowels, the strongly-marked symptoms of adynamia, occur successively, and fix with certainty our diagnosis."

The disease which at first view, we are told, would appear to be the most readily confounded with typhoid fever is enteritis. Enteritis, however, is observed in subjects of every age, is the result of

* According to M. Chomel, typhoid fever attacks individuals between the age of eighteen and thirty, when the strength of the body is the most fully developed; it is rarely observed after forty; and no case has yet been recorded in which the disease has attacked an individual aged over fifty-five years.

† M. Chomel believes that typhoid fever ordinarily occurs but once in the same individual.

‡ Small red spots, which disappear upon pressure, about a half a line to two lines in diameter, of a circular form, and but a little or not at all elevated above the skin. They are spread over the abdomen, sometimes over the chest, more rarely over the thighs and arms. These small spots are more evident in proportion as the skin is fair. Their number cannot be accurately determined, because they are not all equally apparent; but to render them a characteristic of typhoid fever, they should be to the number at least of fifteen or twenty.

causes for the most part appreciable, and may occur a number of times in the same individual; circumstances which are not true of typhoid fever. The invasion of enteritis may be sudden, but never unexpected as in typhoid fever. The febrile symptoms are less developed, and generally of shorter continuance; the discharges from the bowels are more numerous, more painful, and attend the whole course of the disease; while in typhoid fever they often occur only at an advanced period, or are even entirely absent. The prostration of strength when it is present in enteritis is never so decided as in typhoid fever; the adynamia, stupor, dark coating of the tongue and gums, the involuntary evacuations, the ataxic symptoms, delirium, subsultus tendinum, are extremely rare in enteritis, as well as the eruption of red spots, the sudamina, meteorism, ulcerations of the parts upon which the patient lies, &c.

With respect to colic, the character of the pains, and the absence, in the majority of cases, of the general phenomena peculiar to typhoid fever, will enable us readily to distinguish the two affections.

A latent inflammation, when it occurs under the circumstances in which typhoid fever usually attacks, and presents one of the forms under which it is the most frequently observed, may cause some uncertainty in the diagnosis; but an attentive observation of the phenomena which occur during a few days will, even in the most obscure cases, enabled us to decide with certainty.

The acute phlegmasiæ occurring in old persons will frequently from the commencement, or after a short time, assume an adynamic form; the same is true also of the diseases of the urinary organs in similar subjects. The age of the patients is here sufficient to enable us to decide that they are not cases of typhoid fever, as the latter affection occurs only in young persons.

Among the diseases which may be easily confounded with typhoid fever, phlebitis is the most prominent. But it is very rarely that this disease is developed spontaneously; most frequently it results from wounds, or surgical operations, particularly venesection, and likewise subsequent to parturition. These circumstances will suffice to direct the physician to a correct diagnosis. From a retention of a part of the placenta in the uterus, after delivery, for several weeks, well-marked adynamic symptoms often occur, and which may be taken for those of typhoid fever. Examination of the uterus and the sanious discharge per vaginam will here prevent any mistake, and besides it is extremely rare to meet with typhoid fever during the puerperal state.

Latent peritonitis complicated with adynamia in a young subject, constitutes one of the cases in which a correct diagnosis is the most difficult. Peritonitis, however, is most frequently attended with

vomiting, constipation, effusion to a greater or less extent in the abdomen, or a sinking in of the abdominal parietes, which appear, as it were, glued to the vertebral column; while typhoid fever is accompanied with diarrhœa, even involuntary stools, and a meteorism more or less extensive, of the abdomen.

There are cases of typhoid fever of the ataxic form in which the diagnosis is to a certain degree difficult from the analogy of the symptoms with those of the cerebral phlegmasiæ. This difficulty will exist especially when the patient is already in a state of violent delirium, or profound coma, with subsultus tendinum or permanent contraction of the limbs, and we have no accurate information as to his previous symptoms. If the skin does not present the lenticular rosy spots, if there is no indication of a hæmorrhage having occurred from the nostrils, and if there is no diarrhœa, we cannot decide in such cases positively that the disease is typhoid, and we shall be obliged to remain in doubt for several days.

The foregoing remarks of the author upon the diagnosis of typhoid fever, are presented, as we have already said, to give our readers some idea of the morbid phenomena to which that term has been applied by M. Chomel. It will be evidently perceived from these remarks that the author considers typhoid fever to be a specific disease, and to require to a certain extent a specific mode of treatment; an opinion, however, which he is very far from having established by the facts which he has adduced. Notwithstanding M. Chomel professes to draw his inferences invariably from repeated clinical observations, yet from an attentive perusal of the work before us, it will be found that his pathological views of typhoid fever are little else than a series of hypotheses, the premises upon which they are founded being unsupported either by the morbid phenomena presented in the course of the disease, or the nature of the lesions discovered after death.

The author's remarks upon the remote and exciting causes of the disease are as little satisfactory as those in relation to its nature. The causes of typhus fever, he observes, are enveloped in the greatest obscurity. We are well acquainted, it is true, with some of the circumstances under the influence of which it is most frequently developed; but the exciting cause, that by the action of which it is actually produced, has as yet escaped all our investigations. We have already referred in a note to the statement of the author in regard to the period of life, to which according to his observations the disease is almost exclusively confined; namely, that between the eighteenth and fiftieth years. He has also found it most liable to affect persons recently arrived in a large city. It more commonly prevails,

likewise, during periods when there exists a scarcity of the necessities of life, as well as during periods of general distress from whatever this may result. In regard to the question of contagion, the author has with great fairness presented the arguments on both sides, but appears himself to incline to the affirmative side. Nevertheless he admits that if the disease be really contagious, it is so only in a very feeble degree, and under circumstances which have as yet not been satisfactorily determined.

We cannot follow M. Chomel in his description of the symptoms which mark the several forms of typhoid fever, nor his account of the phenomena which indicate the mildness or malignancy of the disease, or point to a favourable or unfavourable termination; and we have but a few remarks to make upon the author's directions for its treatment.

In the mildest and most simple cases of typhoid fever, he directs, at the very commencement, the detraction of blood from the arm, which has the effect of diminishing the pain of the head and shortening its duration, and of preventing the development subsequently of more serious symptoms. When the pain of the head is very severe, he likewise recommends the application of leeches behind the ears with cold applications to the scalp. In addition to the above, the remedies are cooling drinks, mucilaginous injections, daily repeated, and emollient cataplasms or fomentations to the abdomen when this is painful; when the pain is acute leeches also are to be applied. When the heat of the skin is considerable the body is to be sponged with cold vinegar or water. If there is a tendency to coma or delirium, hot applications or sinapisms are to be applied to the extremities. If the bowels are not freely opened, mild laxatives are to be administered; if diarrhoea be present, this is to be restrained by mucilaginous drinks, starch injections, &c. The foregoing, in conjunction with the strictest cleanliness, pure air, a proper regulation of temperature, &c. constitutes the whole treatment necessary in the milder forms of the disease.

In the inflammatory form of typhoid fever he directs bleeding and the ordinary depletory remedies, more or less vigorously employed, according to the age and vigour of the patient, and the intensity of the symptoms; with this precaution, however, that these remedies must not be carried to the same extent as in other inflammatory affections.

In the bilious form of typhoid fever a nearly similar treatment is demanded; in certain cases both emetics and purgatives will be proper. In the mucous variety the same remedies will in general be required as in the more simple form; only in place of mucilaginous or acid drinks the author prefers those which are slightly bitter or aromatic.

In the ataxic form, when the symptoms are of an inflammatory type, depletory remedies are demanded; when adynamic, tonics should be resorted to. In the purely adynamic form of typhus fever, the proper treatment will consist in the judicious administration of tonics, aromatics and stimulants, as wine, camphor, and sometimes ether.

"It is important, however," he remarks, "not to commence upon a tonic treatment during the period when the reaction, already too intense, might by such a treatment be excited to an unfavourable extent. At the same time, it is not less important that we do not delay our tonics until the strength of the patient is completely exhausted and cannot again be roused. It is difficult to indicate precisely the period of the disease at which all depletory remedies should be suspended and tonics be commenced with; it is at the bedside of the patient rather than from books that this point is to be determined.

"Wine, which in this disease is at once an active remedy and admirable aliment, is not equally well adapted to every case. If there be present delirium or symptoms of cerebral congestion, its use should be suspended, as it will then have the effect of very certainly increasing these affections."

When administered it is to be given in spoonful doses, at first one or more times per diem, subsequently every few hours or every hour, and at a more advanced state still more frequently, mixed with the ordinary drinks of the patient. The use of the wine is to be restricted as much as possible to the intervals of the exacerbations.

Ether is said to be useful, more especially when we desire to rouse promptly the actions of the system.

M. Chomel presents some very favourable but cautious observations in regard to the treatment of typhoid fever by the chloride of soda. In the proportion of one to two grains to an ounce of mucilage or weak bitter infusion it was given internally; the patient taking of this solution from three to five basins of eighteen ounces each during the day. It was also given in injections combined with mucilage in a similar proportion, night and morning; the body was washed with the pure chloride four times in the twenty-four hours, the cataplasms applied to the abdomen were also sprinkled with it, and to each of the baths in which the patient was immersed a pint was added, the coverings of the bed were sprinkled with it at short intervals, while vessels filled with it were placed beneath the bed. In 1831 *five* patients were treated in this manner, *all* of whom recovered, while of *fifty-one* subjects treated without the chloride, *sixteen* died. From November to August, 1832, *twenty-three* patients with typhoid fever were admitted into the Clinic. *Fifteen* of these, the symptoms of which were very severe, were treated by the chloride of soda, and *eight* without it. *Five* of the latter with symptoms of little severity were cured. Of the first, *thirteen* recovered; one of the fatal cases presented after death hepatization of the lungs and tubercles. From November, 1832,

to March, 1834, *fifty* subjects affected with typhoid fever were admitted. *Thirty-seven* of these were treated by the chloride, and *thirteen* without it; in eight of the latter the symptoms were very light, in the other three the disease was complicated with pneumonic symptoms. *Five* of the thirteen died. Of the thirty-seven treated by the chloride of soda twenty-five recovered. One of those which died was attacked with cholera, another with pneumonia, another with perforation of the lungs and pneumo-thorax during convalescence. A fourth was brought in in a dying state, and two others were affected with inflammation of both lungs.

“Although the results,” remarks M. Chomel, “of the treatment of typhoid fever by the chloride of soda, have been very different in different years, the remedy is nevertheless that which has been attended with the greatest degree of success. Many distinguished physicians have made to us a similar statement in regard to it. We continue therefore to test this mode of treatment which, combined with other remedies adapted to the symptoms of each case, notwithstanding its frequent failure, has presented results more favourable than those obtained from any other.”

It is proper to remark that we have given above merely an outline of the author's directions for the therapeutical management of the fever under consideration; we pass by his remarks in regard to individual remedies, and to the modifications of treatment demanded for particular symptoms and the complications by which the disease is occasionally attended; not because they are in our opinion injudicious or incorrect, but from their possessing no particular novelty; they are the same as would be adopted by every enlightened physician.

The present work of M. Chomel, a brief and perhaps imperfect notice of which we have now presented to our readers, is unquestionably one possessed of no uncommon degree of interest from the accuracy and distinctness with which it delineates the various morbid phenomena connected with a highly important class of diseases. And yet the degree in which it advances the actual amount of our knowledge in regard to the pathological character of these diseases is but small. Notwithstanding the numerous well-observed facts which the author presents in relation to typhoid fever, are in themselves important, yet his reasoning from these facts is in too many instances vague and unsatisfactory. He has erected a certain concurrence and succession of morbid phenomena into an entity which, according to his views, acts upon the organs, producing in them various lesions; and he has described disordered functions, which, were we to admit all his conclusions as correct, we must view as being totally unconnected with any morbid condition of the organs upon the action of which those functions are dependent.

D. F. C.

BIBLIOGRAPHICAL NOTICES.

XIV. *An Inquiry into the Claims of Dr. William Harvey to the Discovery of the Circulation of the Blood; with a more Equitable Retrospect of that Event. To which is added an Introductory Lecture, delivered on the 3d of November, 1829, in Vindication of Hippocrates from Sundry Charges of Ignorance, preferred against him by the late Professor Rush.* By JOHN REDMAN COXE, M. D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania, &c. &c. De mortuis nil, nisi-verum. Philadelphia, 1834. 8vo. pp. 258.

Upwards of two centuries have now elapsed since the work of Dr. William Harvey, *De motu Cordis, et Circulatione*, in which he describes the action of the heart and the circulation of the blood, and claims for himself the honour of being the sole discoverer of these important and interesting physiological facts, was first presented to the world. Although, immediately after the appearance of this work, the claims of the author as the actual discoverer of the circulation were strongly contested, and nearly every point in connexion with the question became the subject of warm and protracted controversy, yet it appears, that all opposition to his claims was either silenced or removed even during the lifetime of Harvey, while by subsequent writers the entire credit of the discovery has been, with scarcely a dissenting voice, fully awarded to him. At the present day, therefore, there are, we suspect, but very few who entertain the slightest suspicion as to the correctness of this award. The name of Harvey has become so completely identified with the discovery of the circulation, that the attempt to prove his claims to be in any degree unfounded will be viewed by many as little else than madness. In the work before us, Professor Coxe has, nevertheless, endeavoured to show that the evidence in favour of those claims, which our profession has so long and so unanimously concurred in, is very far from being satisfactory or conclusive. He adduces numerous citations from medical writers anterior to or contemporary with Harvey, to prove, that a circulation of the blood was always accredited, though its exact route and the mode in which it was effected were unknown: that nearly every individual fact connected with the circulation, as taught by Harvey, and all the various grounds adduced by the latter in support of his views, with scarce a solitary exception, are distinctly pointed out by others, with whose writings it is not reasonable to suppose that he was not perfectly conversant. These premises being established, the claims of Harvey are reduced to the having more fully substantiated the facts previously known in relation to the circulatory apparatus, and of demonstrating from them the true route of the general course of the blood, which had until then remained in a state of uncertainty. In the words of Professor Coxe, the honour may be ascribed to him of "attaching more firmly the connecting links of an extensive chain which time had rusted, and possibly, also, of adding slightly to its more full perfection."

Admitting, with our author, that Harvey's views of the circulation of the blood were derived originally from the various hints advanced in the writings

of preceding and contemporary physicians, he was nevertheless unquestionably the first who clearly deduced from these hints a correct account of the mode in which the blood is transmitted from the heart and again is returned to that organ. By no one, previously to the appearance of Harvey's work on the subject, is the true route of the circulation fully and clearly described; hence, in a certain sense, Harvey may with perfect truth be styled the discoverer of the circulation. Professor Coxe considers, however, that even to this limited extent his claims, strictly speaking, are unfounded, inasmuch as he has fallen into numerous errors and contradictions in relation to the subject; as he has not explained fully the mode in which the blood passes from the arteries into the radicles of the veins, and hence has not made out the entire route of the circulation—a point which is not satisfactorily settled even at the present day—and as he has not explained clearly the powers by which the motion of the blood is effected, and was, so far as can be learned from his writings, entirely ignorant of the capillary circulation. We pass by those objections derived by Professor Coxe from the errors into which Harvey has fallen in regard to, or rather his ignorance upon various points of physiology, as these errors do not appear to us to have any bearing upon the question immediately before us—they cannot in any degree invalidate his claims to the discovery of the circulation of the blood, provided that conclusive evidence could be adduced to prove that the latter was entirely unknown previously to its announcement by him.

Professor Coxe has not only impeached Harvey's title as discoverer of the circulation of the blood, but he has also adduced evidence to convict him of the most unpardonable disingenuousness, in observing an almost total silence in regard to the writings of others, in connexion with the subject of the circulation, and the anatomy of the heart, veins, and arteries; especially certain writers immediately preceding him, "on the use of the valvular apparatus of the veins; the only part nearly that could be regarded as imperfect in the history of the circulation," or in referring to them merely to misrepresent or undervalue the opinions they advance.

These circumstances, which are fully made out and established by the professor, in connexion with the intemperate and vulgar abuse in which Harvey indulges when speaking of his opponents, certainly tend very much to lower our esteem for the character of that illustrious man, and lead to a strong conviction that his right to the discovery which he so imperatively claims rests on a very insecure foundation, and hence that he was desirous, in order to add to his own fame, of concealing the fact, that in the same field of inquiry upon which he had entered any competitor existed, either anterior to or contemporaneously with himself.

Has Professor Coxe in any degree succeeded in diminishing the claims of Harvey to the discovery of the circulation? The most prudent course in regard to this question would probably be to refer our readers to the evidence detailed in the work before us, and allow each of them to judge for himself. We have, however, no desire whatever to shrink from the clear and candid expression of our own opinion in relation to the subject. We reply, then, that many of the most important links in the chain of evidence by which the fact of the circulation is established are proved by Professor Coxe to have been known and more or less accurately described by writers preceding the period when Harvey

commenced his investigations, and there is almost conclusive evidence that the latter was perfectly acquainted with these facts; and that it was by connecting together the links thus furnished to him by his predecessors that he was enabled to demonstrate, as he has done, the course of the blood through the lungs and the general aortal and venous systems, in its passage from and to the heart; and hence that he is not entitled to the honour claimed by himself and ascribed to him by his supporters, of being the first and sole discoverer of the circulation.

It may be said, that the very same objections to the validity of Harvey's claims were urged and completely refuted during his life-time. We believe, however, that this is not strictly the case. So far as we have been enabled to investigate for ourselves the grounds assumed by those who opposed the views of Harvey in regard to the blood's circulation, immediately after their promulgation, they consisted in one or other of the following assumptions.

1st. That the supposition of a circulation of the blood is founded in error.

2d. That the circulation of the blood was fully, or at least in great part, taught by the ancients; or

3d. That the route of the circulation assumed by Harvey is not the true one.

Now it appears to us, without touching in any degree the real merits of Harvey's claims, to have been no very difficult task for his advocates to disprove such assertions as these, and to silence an opposition which had no more solid foundation. Few candid minds could "withstand the demonstrations of the circulation as laid down by Harvey," and no one who understood these demonstrations, or whose object was to arrive at the truth, could possibly imagine that the entire fact of the circulation as taught by him was borrowed from notices like the following, the first derived from the writings of Nemesius, a metaphysical writer of the latter part of the fourth century, and the other from Theophilus, a physiologist of the seventh century; and yet the passages given below have actually been adduced, in common with many others of similar import, by some of Harvey's opponents, as convincing proof that the whole of his pretended discovery is a mere plagiary from the works of the older writers.

The words of Nemesius are—

"The pulsation, which has also been termed the vital power, (*ζωτικὴ δύναμις*), proceeds from the heart, especially from its left chamber, termed the pneumatic, and distributes the vital heat through the arteries to all parts of the body, as does the liver the nutritive matter through the blood-vessels."

According to Theophilus—

"From the right chamber of the heart, (*αιματικὴ κοιλία*), springs the arterial vein, (*φλεβὶς αρτηριαδης*), which conveys the blood of the vena cava to the lungs; from the left chamber arises the aorta, (*αρτηρία πνευματικη*), which is distributed over the whole body, and also the venous artery, (*αρτηρία φλεβοδης*), which conveys the vital heat from the lungs to the blood of the left chamber."*

From all the facts that we have been able to gather in relation to the subject under consideration, it appears evident to us that the claims of Harvey as discoverer of the circulation were very imperfectly investigated during his life-time, while the real character of these claims have been misunderstood from that period to the present. The loose manner in which they have heretofore been examined, has, indeed, tended more to increase their strength than all the

* Vide Hecker's *Geschichte*, 2r. B. pp. 81, 186.

arguments adduced by their supporters. Hence they present still an interesting subject for investigation, and we know of no one in this country by whom this investigation could have been so fully and so fairly pursued as by the author of the inquiry before us. Intimately acquainted with the older medical writers, in which his library is probably richer than any other private collection amongst us; fond of the ancient lore of our profession, and with time and talents perfectly adequate to pursue a long and laborious chain of inquiry through the dusty pages of antiquity, Professor Coxe has engaged in the task he has undertaken with means and facilities for its accomplishment which few others could have commanded. His work, notwithstanding its arrangement, is faulty, and the chain of reasoning of the author is often obscured by unnecessary digressions and repetitions, presents matter of a highly interesting character, and which will doubtless be new to the major part of his readers. For ourselves, although we had studied with some attention the celebrated work of Harvey, and have dipped somewhat deeply into the pages of the antiquated writers of our profession, we confess that we have learned from its pages many facts of which we were before ignorant, and have acquired a more perfect acquaintance with the gradual steps by which a full knowledge of the circulation was attained, than we before possessed.

We fear, however, that in consequence of the author having presented all his quotations in the Latin, unaccompanied with a translation, his book will be rendered a sealed one to a numerous class of those to whom it is dedicated. With Professor Coxe we sincerely regret the almost total neglect of the learned languages by the physicians of this country; nevertheless, we conceive that he might, with propriety, have withheld some portion of the censure he has indulged in on this point. He is perfectly aware that to the University of the Medical Faculty of which he is a distinguished member, or at least to one of its former professors, is in a great measure to be ascribed the very neglect he reprobates. Even now it requires of those whom it admits to the doctorate no evidence of their classical attainments, and elevates alike to the same honours the illiterate and the learned, provided they can pass with credit their professional examination.

Appended to the Inquiry into the claims of Harvey as discoverer of the circulation of the blood, is an introductory lecture delivered by the author a few years ago to his class, in which he triumphantly vindicates Hippocrates from the charge of ignorance preferred against him by the late Professor Rush. For this judicious attempt to revive our interest in the writings of the illustrious father of medicine; writings which, by the labours of their numerous commentators, were made to exert for centuries a powerful influence over medical opinions and practice, Professor Coxe deserves our sincerest thanks. While the name of Hippocrates is so frequently referred to, how few physicians are there who are at all acquainted with his real merits and the claims which his numerous works present to our respect and attention! Although we cannot, with certain enthusiasts of a former century, extol those writings as presenting the only true views in pathology and therapeutics, yet we must admit that they are nevertheless, generally speaking, rich in facts, the result of close and extensive inquiry, while several of the treatises of Hippocrates might even at the present day be read by the medical student, and even the practitioner, with not a little profit.

D. F. C.

XV. *The Cyclopedia of Practical Medicine and Surgery; a Digest of Medical Literature.* Edited by ISAAC HAYS, M. D., &c. Parts III., IV., and V.

These three numbers of the *Cyclopedia* complete the first volume of the work, and include all the subjects under the letter A. so far as *Angina Pectoris*. The medical public have now a fair opportunity of judging of the general character of the *Cyclopedia*, and of the extent to which they may expect the promises held out in the prospectus to be redeemed.

The great object aimed at in a work like the present, is not, as some would seem to imagine, to present novel opinions in regard to the various subjects embraced in its pages, nor to record the experience of any particular individuals or school of medicine; it is one of far greater extent and usefulness. It is to present in a condensed form, but sufficiently in detail for all practical purposes, the actual state of our knowledge upon all those branches into which the medical and surgical sciences, properly speaking, are divided. Collecting valuable materials from every available source, separating facts from hypotheses, comparing the experience of the profession abroad with that of our own physicians, and placing to the credit of each the additions and improvements which they have respectively contributed—thus presenting a fair exposition of the current doctrines of the day in conjunction with those of the older writers, the truth of which has been confirmed by a long succession of experience; a work of this character constitutes, what the editor announces the *Cyclopedia* to be intended for, a complete library of the medical sciences. In the highest degree useful to the members of the profession generally, such a work is particularly so to those who live remote from extensive public libraries and the grand centres of medical and scientific information, placing as it does within their reach, and in a form which renders a reference to any particular subject perfectly easy, “a digest of the existing state of knowledge in all the branches of the healing art.”

How far the present work is deserving of this character, must be left to the decision of the profession at large. So far it has certainly not disappointed the most sanguine anticipations of its friends. Taking the five numbers already published as a fair specimen of its general plan, and of the talents of the writers engaged in it, both in a scientific and literary point of view, we have no fear as to the judgment that will be pronounced upon it by the medical public; we have an assurance that every American physician will feel a pride in extending towards it his support. In the volume just completed, the editor has evinced a commendable zeal to present a faithful record of the medical and surgical practice of this country. It will be seen by an advertisement which accompanies the fifth number, that from the liberal and honourable manner in which some of the most distinguished members of the profession have placed their unpublished observations and cases at the disposal of himself and his colleagues, the work presents even more of an original and American character than was promised; and this we are informed will be found to be the case to a still greater extent as the work proceeds.

It is neither necessary nor expedient for us on the present occasion to enter into a detailed examination of the whole of the contents of the three numbers before us. It would be impossible, indeed, without extending our remarks be-

yond the limits of a bibliographical notice, to examine succinctly even the more prominent articles embraced in their pages. We may be permitted, however, merely to refer to a few. The subject of Alteratives and that of Anemia are treated by Dr. S. Jackson in his usual happy manner. On both, the views of the author will, if we mistake not, be found to be highly judicious, and in a practical point of view all-important.

The well-known talents of Dr. Bache as a chemist and physician, his commendable cautiousness and accuracy, are a sufficient guarantee for the excellence of the articles Albumen, Alcohol, Alkalies, Alum, Ammonia, &c. contributed by him. The reader will find in them all the most important and useful facts in relation to each subject treated of, presented in a concise but clear and intelligible style. The same remarks will hold good in reference to the articles Allium, Aloes, Almonds, Ammoniac, &c. from the pen of Dr. Wood. From the pen of Dr. Dewees we have the article After-pains, and an admirable article on Amenorrhœa. The excellent judgment of the writer and his long experience as an obstetrician and practitioner in the diseases of females, render his observations on both of the above subjects extremely valuable.

In the article Affusion, by Dr. Emerson, is contained a very able exposition of the therapeutical effects of water when poured upon a part, or over the whole of the surface of the body, and of the precautions to be observed in its employment in this manner as a remedial agent.

Under the head of Air is examined the action of that fluid when admitted into the veins. This division of the subject is by Dr. Warren, of Boston. The facts in relation to it are clearly stated, and the inferences drawn from those facts are of very considerable interest, as explanatory of the cause of the sudden and unexpected death which occasionally occurs in patients during certain surgical operations, and as pointing out the means for its prevention. The portion which refers to the action of air introduced into the arteries and internal cavities of the body, bears the signature of the editor.

The principal surgical articles contained in the present number, with the exception of those which relate to the affections of the eye, written exclusively by Dr. Hays, are three, namely, Amputation, by Dr. Geddings, of Baltimore; Anchylosis, by Dr. Horner; and Aneurism, by Dr. Hodge. All of these are very able articles, replete with sound practical principles. They confer great credit upon the respective writers, while they cannot fail to enhance the interest and value of the Cyclopædia.

In the article Ages, by Dr. Condie, will be found a graphic sketch of the gradual development and decline of the human organism, and of the different physiological phenomena peculiar to the several stages through which it passes from the period of birth to that of extreme old age.

The subject of brainless monsters is treated of under the head of Anencephalus, by Dr. Geddings. This article is of considerable length, and its details will no doubt be considered uninteresting by many readers; they are nevertheless of great importance in reference to the physiological inferences to be derived from them. Considerable industry and research are displayed by the writer in the collection of the numerous facts connected with the subject.

The article Angina Pectoris, one of great interest, is contributed by Dr. Chapman.

Anasarca by Dr. Condie. Reserving the consideration of the pathology and treatment of serous effusions for the article Dropsy, in this article Dr. C. merely presents an account of the symptoms accompanying the external form of that disease, with a brief sketch of its varieties, their causes and treatment.

We must here close our brief and very imperfect notice of a part of the contents of these numbers. After a very careful, and we can say with great truth, entirely unprejudiced examination of the several articles which they comprise, we feel no hesitation in recommending the Cyclopædia of Practical Medicine and Surgery to the patronage of our medical brethren throughout the United States. We are perfectly aware that to render a work of this kind deserving of their support, demands on the part of its conductors talents of no ordinary character. We believe, however, that the deservedly high standing of the several contributors, their extensive professional experience, and the evidence which they have already given of their capacity faithfully to fulfil the important task they have undertaken, will remove all doubts as to the character of the succeeding volumes.

F.

XVI. *De la Réunion Immédiate des Plaies, de ses Avantages et de ses Inconvénients.* Par L. J. SANSON, Chirurgien de l'Hôtel-Dieu de Paris. Paris. 1834. pp. 115.

In a recent No. of this journal we noticed the very interesting work of M. Serre, upon union of the first intention; a work written to secure the claims of M. Delpech, and those of the school of Montpellier, from the neglect of the profession in Paris. The remarks made in that article foreclose many of the commentaries that we should be inclined to make upon the essay before us, and may serve as an apology for now offering the public a hasty bibliography, where the importance of the subject would otherwise seem to demand a grave review.

M. Sanson is one of the pupils of the school of Dupuytren, and is well known as the author of the surgical portion of the beautifully lucid treatise on the Elements of Pathology published in conjunction with M. Roche, in 1827. He is at present one of the surgeons of l'Hôtel-Dieu, and his views may be considered as those generally entertained by the leading surgeons of that noble institution. In the work under notice we are furnished in the earlier chapters with a clear view of the local and general phenomena of immediate union in wounds, the constitutional and local conditions and treatment that favour or oppose its success, and the physiological history of secondary union in wounds with and without loss of substance. Then follows an outline of the proper treatment of wounds in particular regions of the body, with especial reference to the propriety or impropriety of attempting primary union in individual cases. The second article treats of immediate union as it is practised after surgical operations other than amputations, and the third is devoted to the argument on the propriety of attempting this mode of cure after the latter class of operations.

The work has little claim to originality, but is highly interesting, as furnishing some insight into the causes which have retarded the progress and diminished the success of the treatment of wounds by this method in France, and particularly in Paris. Perhaps the greatest defect of most French pathologists,

(we say most, for there are some noble exceptions,) is their too great anxiety to simplify. From a few well-founded, and it may be, indisputable postulates, they deduce apparently logical conclusions, which they attempt to apply invariably in practice, forgetful of the fact that all physiological questions involve data which in the present state of our knowledge are entirely undetermined, and hence our conclusions are at best but approximations. They have invaded the domains of empiricism with more success than their brethren in any other country, and this is much; but it should be borne in mind that until the science of life becomes at least equally well known with that of mechanics, the practice of medicine must and should continue in some degree empirical. When a practical procedure produces a result which appears to conflict with our theoretical opinions, we should not be in haste to reject either the fact or the theory; it is not even safe to rank the former among the exceptions to the latter without considerable caution. To us these remarks seem to apply with considerable propriety to the treatise of M. Sanson, but of this the reader will judge for himself as we advance.

The author describes with his usual brevity and clearness the appearances presented by a wounded surface during the progress of union, waving the question of the precise origin of coagulable lymph and that of the direct inosculatation of the divided vessels, but dwelling upon the fact that adhesion, like all other vital operations, takes place more slowly in the less vascular and more solid tissues than in those of an opposite character. Upon this undoubted fact he grounds a practical precept which we cannot regard as at all correct.

“If two points are placed in contact, one of which presents the conditions necessary for a prompt development of the phenomena of adhesion, and the other is in the opposite condition, inflammation can run its course in the former before it is developed in the latter, and the reünion will be difficult or will not take place at all. If the structure of the wound is such that certain parts, similar to each other, or nearly so, are in contact, reünion will take place particularly between these parts; and if the wound is very complex in regard to the number and variety of the tissues interested, the partial reünion of which we speak can only take place easily between the integuments forming its orifice, leaving a gap beneath in which fluids of various kinds are deposited.” p. 6.

It is obvious that practising upon the positions here laid down, the surgeon would avoid attempting the reünion of many wounds, or if he should attempt it he would do so with little confidence of success; and in case of failure he would be disinclined to seek any other explanation of his want of success than such as his theory provided. We have little doubt that this doctrine is one of the chief causes of the slowness with which the plan of union by the first intention after amputations has been adopted in Paris. We have space only for a very short commentary on the position assumed in the paragraph just quoted. No one denies that adhesion takes place more slowly in bone than in free cellular tissue, but slowness is no proof of difficulty or uncertainty. There is no tissue in which union takes place *more surely* than in the osseous tissue, as the whole history of simple fracture clearly shows. Again, no tissue unites more readily with surrounding tissues however dissimilar, so long as its vitality is preserved by the integrity of its periosteum. Does any one dream of abscess of the elbow-joint, or the discharge of the fragment, as a necessary consequence of a neglected simple fracture of the olecranon? On the contrary, we invariably find it adher-

ing to the surrounding cellular membrane until that membrane is converted into ligament. When the extremities of a fractured femur are left unreduced and separated by a portion of muscle, does the adhesive process go over in the muscle before it is developed in the bone, and thus leave a cavity round the naked fragments, eventuating in an abscess? by no means; each extremity unites with the muscle which forms part of the bond of union until its structure is gradually changed to a greater or less extent. We have here chosen extreme cases in order to render the argument as strong as possible; yet we would not be understood to deny that adhesion may take place between the integuments and fail in the deeper seated parts of an external wound. When such an event does occur we regard it as the result of a want of proper apposition, and not of the dissimilarity of the tissues placed in contact, for the latter circumstance, though it may retard the period of *firm and perfect reünion*, cannot in our opinion effect its certainty. Even the want of complete apposition in the deeper parts of a wound is not necessarily fatal to union by the first intention. It may well be doubted if extensive wounds are ever entirely cleared of coagulated blood after the dressings are completed. There is plenty of evidence to show that a considerable amount of blood has often been enclosed under flaps, the integuments have closed, and the coagula have not prevented the union by the first intention. Who has not seen compound fractures converted into simple ones, and running their course without accident in cases in which the integuments have united in twenty-four hours, over a wound distended more or less not only with blood, but with medullary matter escaping from the cavity of the injured bone? and who has not often seen superficial wounds unite before the removal of the first dressing, without a drop of pus being formed, when blood in no inconsiderable amount has oozed out between the adhesive strips for an hour or more after their application? If either the identity of tissue, or the absolute perfection of contact were necessary to union by the first intention, or as M. Sanson expresses it, for reünion without suppuration, how different would be the known result of most lacerations of muscles, and severe, deep-seated contusions unattended with external wounds! accidents which differ in no respect from a wound in which the integuments have united while the inner portions remain separated by “fluids of various kinds.”

After a few remarks on the general symptoms, commonly very slight, induced by direct nervous irritation, or by sympathy, in wounds which unite directly, M. Sanson proceeds to notice the “circumstances favourable to union by the first intention.” They are briefly as follows:—1st. *Life and free circulation in both surfaces of the wound*. The author grants the validity of the evidence in favour of the possibility of grafting one part of an animal upon another, and of the occasional reünion of parts completely severed from the body, but very properly considers them as bare possibilities. 2d. *The recent occurrence of the wound and its slight exposure to the air*. 3d. *Freedom from contusion*. 4th. *The absence of foreign bodies from the wound*. Here the author alludes to the unavoidable difficulty resulting from the presence of ligatures in the wound. He seems to favour the idea that the method of arresting hæmorrhage by torsion may hereafter remove much of this “grave difficulty.” The inconveniences produced by the ligatures, as generally employed in this country, can seldom be considered grave, and we doubt very much whether the presence of parts,

however minute, in which vital power is seriously enfeebled by twisting and contusion, is not calculated to insure more mischief in a wound than the presence of a few slender filaments of silk. The method by torsion has undoubtedly some valuable applications, but it is hardly likely to become a common substitute for that by ligature. The author himself makes some remarks, which in part explain this undue importance attached to the action of ligatures in opposing union. He sides with Thompson, in opposition to Hunter, as to the question of the vitalization, or absorption of coagula in wounds that heal without suppuration—and follows the former in a practical inference, which we could never regard as perfectly legitimate, although some of our eminent surgeons have been recently influenced by it in practice.

“According to Thompson, if a thin layer of blood interposed between the lips of the wound does not prevent their reünion, it is because it is absorbed; the operation of adhesion does not commence till after this preliminary operation is completed; whence results the important precept, *adopted by the majority of practitioners*, to tie even the smallest vessels capable of furnishing blood, and to wash carefully the surface of the wound before proceeding to close it.” p. 17.

Having spoken of this practice in the bibliography of the work of M. Serre upon the same subject, we will avoid repetition by referring the reader to that article—merely remarking that the presence of a great and unnecessary number of ligatures, and the exposure and handling necessary to search out a multitude of unimportant vessels, must prove a very serious obstacle to union by the first intention. The torsion of such numerous points would be scarcely less injurious, and indeed could hardly produce so little inconvenience as the interposition of a small amount of blood. 5th. *Suitable age*. The younger the patient, *cæteris paribus*, the more rapidly does union take place, but, as M. Sanson remarks, extreme youth may interfere with the mechanical treatment necessary to procure accurate coaptation in the wound. He gives the opinions of various writers on the proper time for operating in hare-lip; but does not attempt to decide the question positively. 6th. *Good general health*. Under this head we find some very interesting remarks, showing that lues venerca, scrofula, cancer, &c. even when they affect the constitution generally, do not necessarily prevent or retard the progress of union by the first intention. He gives a very interesting case to prove that a state of extreme feebleness is not always a bar to surgical operations when that feebleness results from the local affection demanding the operation. The patient had all the rational symptoms of advanced phthisis; hectic fever, colliquative diarrhœa, nocturnal sweats, &c.; and appeared in the last stage of attenuation and marasmus. He laboured under ulcerated white swelling of the left wrist; had been healthful till his twenty-ninth year; never had spitting of blood or glandular swellings, and displayed no scrofulous cicatrices. His health had failed within a short period. Want of work, consequent misery and privations, a prison, distress of mind, an unhealthy apartment, bad diet, and rheumatic pains, superinduced the disease of the wrist. The limb was amputated; it healed by the first intention; in twenty-four hours every bad symptom disappeared, and he perfectly recovered.

“But when the debility is original; when the patient has been languishing all his life under cacoehymia; when the affection, for which it becomes neces-

sary to perform a serious operation, which only promises success in case the wound unites by the first intention, or, at least, with but little suppuration, is the result, or so to speak, the last stage of this general condition; above all, when this debility is caused by, or has determined an organic affection, such as the presence of tubercles in the principal viscera, &c., in all these cases it is necessary to abstain from operating, for the operation would only hasten the death of the subject." p. 20.

Lastly, M. Sanson mentions, as one of the most important circumstances favouring union without suppuration, *the perfect contact of all the wounded surfaces*. The remarks which we should be inclined to make upon the great importance here attached to the slightest deposition of fluid in any part of the wound, have been already given to the reader, and need not be repeated. The author then proceeds to make some general and very pertinent observations on position and the mechanical treatment of wounds. In speaking of adhesive strips, he notices their tendency to produce erysipelas, and thus prevent the union in certain cases—a fact which we have dwelt upon in several former articles, and which has scarcely received proper attention in this country, where a tendency to this disease is frequently prevalent epidemically. He rejects the use of adhesive strips in wounds involving muscles, "because they only unite the orifice, and leave a hiatus remaining beneath." p. 26. Though this may sometimes furnish an argument against them in transverse lacerations of muscles, *as a general rule*, it can hardly be defended; the exceptions are vastly more numerous than the applications, and in most cases we should as willingly entertain the idea of laying open the integuments over a ruptured muscle not complicated with an external wound, as that of not closing them, when practicable, over a cavity which cannot be entirely obliterated or freed from coagula in a case complicated with an external wound—provided only, the closure could be effected very soon after the accident. We are at a loss to discover why the danger of abscess should be considered materially greater in one of these cases than in the other. The alternative, which consists in drawing the divided muscle together, with the integuments, by means of very deep stitches, a practice pursued by some eminent surgeons, may possibly be successful in certain cases, though we believe it is very rarely admissible—a proper attention to the attitude of the patient, aided by adhesive strips, or superficial suture, being sufficient in a vast majority of instances. M. Sanson strongly disapproves of this method.

The three succeeding chapters of the first article treat of the general measures necessary to insure union by the first intention, the local, and the general phenomena in suppurating wounds. They are all interesting, particularly the first. We cannot pause to analyze them at present, but will merely remark, in passing, that M. Sanson considers the puogenic membrane to be produced from the coagulable lymph in the same manner with the bond of union in wounds which do not suppurate. This membrane, after becoming organized, forms the granulations, the cicatrix, and supplies the defect produced by loss of substance when such loss occurs; it is therefore the sole agent for the reproduction of lost parts, and when perfected by time, constitutes the *tissu inodulaire* of Delpech. The author contends against the opinions of Beclard, Larrey, Cruveilhier, &c. as to the impossibility of vital actions in articular cartilages, and states that he has seen these cartilages to swell and become covered with vascular vegetations after amputation.

The seventh chapter commences with a very brief outline of the origin of the doctrine of union by the first intention, its subsequent neglect and revival. Then follows an account of the circumstances which at present determine the propriety of attempting or avoiding the closure of a wound by this method. The only exceptions to be taken to the principles here laid down, are such as are consequent upon the opinions which have been already combated, and the same remark applies to the general practical directions for dressing and treating accidents of this nature. The chief objection to these directions is that they would induce too much interference on the part of the surgeon, the waste of far too much time in manipulating before closing the wound, and too little trust in the powers of nature. In proof of this we will translate three of the directions, which by their strong language appear to explain in some degree the more frequent failure of attempts at union in Paris than in other places, a fact that is sufficiently proved in the work of M. Serre, already quoted. These directions are—

“To absterge with care all the surface of the solution of continuity with a fine and soft sponge, charged with warm water, in order to remove *scrupulously even the last clot of blood*. If vessels sufficiently considerable to be visible are divided, to tie them, *even to the most minute*. To take care in every case, before proceeding to reünion, that the flowing of blood should be *completely arrested*.” p. 59.

The remainder of this chapter is given to the consideration, in a cursory manner, to wounds of particular parts of the body. Under the head of wounds of the cranium the author recommends the suture with perhaps too little regard in cases where the flap forms a dependant cul-de-sac; ligatures on the hairy scalp produce more irritation than in most other parts, and are very prone to cause inflammation. Moreover wounds of the surface of the cranium are so completely manageable by means of adroit bandaging, that suture is very seldom necessary. He lays considerable stress upon counter-irritation of the extremities in threatened inflammation of the scalp. In commenting upon Baron Larrey's occasional success in sabre cuts involving the scalp, the cranial bones and a part of the cerebral substance, he lays it down as a law admitting no exception, that in such cases no attempt should be made to unite the wound for fear of compression of the brain by the effused blood, or the subsequent suppuration. Though this law must be regarded as generally correct, there are cases in which the chance of success is even less considerable than in incised wounds, and yet we think the attempt at union should be made as the least of evils.

In speaking of transverse wounds of the neck he strongly recommends the suture, and when alluding to the suffocation resulting from retraction of the trachea, or from bleeding into the tube, he impresses the necessity of waiting for the entire arrest of hæmorrhage before closing the wound. Without sharing in the great dread, expressed by M. Sanson, lest the direct admission of air into the tube should occasion fatal suppuration, we fully admit that the strictest attention to the three practical directions which we just now censured in their general application, is indispensable in cases of this character, and consequently we seldom anticipate complete union of the whole wound by the first intention when the trachea or larynx has been extremely injured. The author recommends suture through the cartilages in case of threatened suffocation after complete division or repeated incisions of the larynx or trachea, noticing M.

Castan's successful case in which he punctured the ossified cartilages with a trochar, in order to introduce the needle. Cases may occur, positively demanding such measures, but as the present learned professor of surgery, Dr. Gibson, justly remarks, by such means "a troublesome cough and an incessant irritation will be kept up." (*Institutes and Practice of Surgery*. v. I. p. 160.) To avoid this difficulty, the lining membrane should be avoided if possible, when suture is absolutely demanded. As a general rule we should say that extensive wounds of the larynx and trachea do not admit of entire closure within the time necessary to cause immediate union, because sometimes the flow of blood cannot be perfectly, securely, and permanently arrested until several hours have elapsed, and if the whole wound be closed by suture there is great probability that the stitches will be torn out by coughing, or that they must be cut by the surgeon to prevent imminent suffocation. Adhesive strips for the corners, and position for the centre of the wound, furnish the most rational means of treatment, and if the latter portion should suppurate, the danger of an extension of the inflammation to the tube cannot be so great as M. Sanson seems to infer. On wounds penetrating the cavities of the thorax there is nothing of very particular interest except a dangerous case of wounded lung, by M. Taxil, in which the blood was evacuated by enlarging the orifice, and with success, proving the occasional exceptions to the general law, that such wounds should be immediately closed. One word on the subject of wounds of the extremities.

"A question, more important and long debated, is whether or not union should be *attempted* in wounds complicated with fracture. The numerous failures made in endeavouring to preserve members, had caused many distinguished practitioners to think that it was better to amputate, than to attempt the preservation of the members. Now, however, it is conceded that there exists certain exceptions to the rule, &c." p. 81.

The exceptions noted are cases in which the wound and fracture, separately considered, are both simple and free from contusion, those in which the wound is produced by the ends of the bone penetrating from within outwards, and in which the accident may be easily reduced to the condition of a simple fracture.

"But the question rests entire for wounds accompanied by fracture by direct causes, and complicated with splinters and considerable contusion; or to speak more correctly, it is decided: these cases demand amputation. *Such has been, and such is still the opinion of the most distinguished surgeons of the capital,*" &c. p. 82.

We believe that some American surgeons of the highest eminence are somewhat blameable for amputating too seldom; but it is hardly necessary to comment upon the above passages, further than to ask whether their exceptionable character is due to errors in practice, or to looseness of language and undue decision of manner. We cannot believe that any surgeon of the Hotel-Dieu, much less the most distinguished surgeons of the capital, would consider, in civil practice, the existence of compound fractures when complicated with splinters and considerable contusion, as cases generally demanding immediate amputation. Cases coming within this description recover every day, and often with little difficulty.

In quitting this section, we will merely venture the general remark, that M. Sanson seems to carry, even further than most French authorities, the practice

of moistening the dressings with fluids, a practice which invariably lessens the security of adhesive strips when they are employed, and which often disturbs the process of reünion in the lips of a wound, by softening the scab or dried secretion which usually protects them, and in many instances leads to superficial suppuration, even when it does not produce more serious inconveniences. We are averse to any attempt at combating evils before they have actually occurred, and if cold and moisture are required in the treatment of wounds, it is only during the commencing stage of acute inflammation; if employed before the proper time, they not only embarrass the process, but may produce the very evil they are intended to prevent. This may appear a minute observation, but success in surgery, as in all other things, depends much upon details apparently trivial in their nature.

Passing over the second article, which is for the most part a mere enumeration of the cases in which union by the first intention ought or ought not to be attempted in cases of operations not involving amputations, an enumeration to which no exception can be taken, we come to the third article, *On the Advantages and Inconveniences of Immediate Union in Wounds produced by Amputation*. This is the great point of controversy in which the north of Europe, England, the United States, and the school of Montpellier may be regarded as taking the affirmative side, Paris the negative, and Italy a neutral ground. M. Sanson appears at first disposed to argue in favour of the affirmative, but his final conclusion will be mentioned presently.

It is impossible, within our present limits, to treat this subject in detail, for we should be obliged to discuss much of the matter, sentence by sentence, at considerable length. Leaving the first part of the work, then, to contend with the second, and where this fails, calling in the aid of M. Serre, of Montpellier, who has been somewhat neglected by our author, we must content ourselves with a few observations on two or three points of some importance, we will defer the argument till a more suitable occasion offers.

“The English are so persuaded of the necessity of tying even the smallest vessels capable of furnishing blood, in order to insure reünion, that in order to render them apparent, they sometimes endeavour, *according to the report of M. Avery*, to excite the circulation and local heat by causing the patient to take a little warm wine, covering the stump with a little flannel wet with warm water, frequently renewed.” p. 100.

Now, though the second part of this process may have been used, although we never recollect to have heard it mentioned, the first part, i. e. the use of wine, is frequently resorted to, but with a design very different from that supposed by the author. It is very common for a patient to be found almost in a fainting condition at the close of an amputation, and under such circumstances we have even seen the femoral artery refuse to bleed. The wine is given to quicken the circulation, in order that *the considerable vessels* may be detected without unnecessary delay and exposure, for fear the reünion should be endangered. It would perhaps surprise M. Sanson to hear that we have seen cold water employed in some rare cases to check the oozing of blood, in order that the closure of the wound might not be improperly delayed in the search for very minute vessels; and that such cases have been highly successful. Doubtless there are some surgeons, both in England and America, who would approve of keeping the wound

open for an hour or more, as advised by Dupuytren, in order to discover and tie the smallest vessels, but such is any thing other than a national custom in either country. It is very rarely that half that time is allowed, nor is it customary with most to employ numerous ligatures, except in cases of unusual disposition to hæmorrhage. The doctrines of Thompson on this subject appear to have produced a false impression in Paris.

Our author attributes the greater part of the unfortunate terminations after amputation to phlebitis, which he considers as more probable in cases of attempted union, than where the opposite plan of treatment is pursued. This accident is very rare in America, and though it may be well supposed that the great hospitals of Paris are more subject to the endemic erysipelatus tendency which renders it more frequent, than are the smaller institutions in this country, we cannot avoid the impression that other causes must coöperate in producing the vast difference in results. We possess at present no means of tabular comparison, but our readers will be astonished to have the following details of the results of amputation abroad.

<i>Observers.</i>	<i>No. of Observations.</i>						<i>Proportion of Deaths.</i>
Dupuytren*	-	-	—	-	-	-	1 in 3
Roux*	-	-	—	-	-	-	1 in 3
Larrey*	-	-	—	-	-	-	1 in 6
Dubois	-	-	28	-	-	-	1 in 9
Lucast†	-	-	70	-	-	-	1 in 14
Percy†	-	-	92	-	-	-	1 in 15
Freere†	-	-	27	-	-	-	1 in 27
Maunoir†	-	-	30	-	-	-	1 in 30
Kennedy†	-	-	11	-	-	-	None.
Alanson†	-	-	36	-	-	-	None.

Those marked with an * may be regarded as opponents to the plan of re-union, though the two first are said not to reject it in all cases. (See Serre, Op. Cit.) M. Dubois is associated with M. Richerand, and is considered an advocate. (See the Observations of Serre on this point also.) The rest marked with a † are decided advocates of the doctrine. M. Sanson labours ingeniously to weaken the obvious force of the argument founded on these observations; with what success the reader may judge after consulting the work. He finally declares in favour of keeping the integuments separate by a roll of lint, allowing the deeper-seated parts to unite. If he had confined himself to a partial separation at one or both ends of the wound, to secure free exit to any pus accidentally formed, he would not have been without most able defenders on this side of the atlantic.

In conclusion, we would remark, that the work under examination, together with that so frequently referred to in the course of our remarks, give a very fair view of the state of medical opinion on this most important subject among the leaders of the two great schools of France, and would therefore prove a valuable addition to the library of American physicians.

R. C.

XVII. *Jurisprudence de la Médecine, de la Chirurgie, et de la Pharmacie, en France; comprenant la Médecine Légale, la Police Médicale, la Responsabilité des Médecins, Chirurgiens, Pharmaciéens, &c.; l'Exposé et la Discussion des Lois, Ordonnances, Reglemens et Instructions concernant l'art de guérir; appuyé des Jugemens des Cours et des Tribunaux.* PAR ADOLPHE TREBUCHET, Avocat, Chef du Bureau de la Police Médicale et des établissemens insalubres à la Prefecture de Police. Paris, 1834. pp. 756. 8vo.

Collection des Rapports Généraux sur les Travaux du Conseil de Salubrité de la Ville de Paris, et du Département de la Seine, &c. PAR V. DE MOLEON. Tome 1. Paris. 1830. pp. 404. 8vo.

These two works, although principally devoted to an exposition of the laws regulating the medical and pharmaceutical professions in France, contain much that is instructive and interesting. The provisions of the French law, with respect to the safety and well-being of the inhabitants of that country, are admirable, and although many of them would appear arbitrary, and could never be enforced in the United States, still there are a vast number which would conduce much to our happiness and comfort if put in force here.

The system of the French *Code Sanitaire* is excellent, and the organization of the *Conseil de Salubrité* of Paris, shows that the government of that country is fully impressed with the necessity that the members composing it should be men of intelligence, and fully competent to decide on the cases that constantly come under their supervision. A perusal of the reports of this body, as given by M. de Moleon, will show that the business of that board of health is very differently conducted from those of the United States, and present the curious anomaly that under a regal government there is more caution in infringing on the rights of its subjects, with regard to the removal, &c. of what are termed nuisances, than takes place in this country, where, from the mode in which our boards of health are constituted, orders are issued for draining ponds and the suspension of certain trades, on the mere dictum of a body of men, who, however estimable they may be in the walks of private life, are, from want of the proper knowledge, but ill calculated to decide on such subjects.

It would not comport with the character of the Journal, to enter into this subject at length, but we will merely add that we trust that if a revision of our health laws should take place, that advantage will be taken of the labours and experience of others, and that we may at least be relieved from the operation of a code of laws which are calculated rather to oppress our mercantile community, than to guard us against the "introduction of malignant and pestilential diseases."

The work of M. Trebuchet contains, in addition to the laws regulating the medical profession, several chapters on medical jurisprudence properly speaking, which are of great interest, as presenting many important cases and the reports made on them, elucidating several obscure or disputed points, especially the diagnostics between wounds, &c. inflicted by others, or with a suicidal intent. We have, however, so often drawn the attention of our readers to these and other subjects connected with legal medicine, that we shall pass them over,

but strongly recommend to those who feel an interest in this neglected branch of medical learning a perusal of this part of M. Trebuchet's treatise.

We cannot, at the same time, avoid noticing the second chapter on medical responsibility, a subject which we believe has never been touched on in this country by any medical man, with the exception of a short chapter in the American edition of Ryan, although we have numerous instances of actions for mal-practice. Many of M. Trebuchet's opinions are, we think, controvertible; but, on the whole, we have been highly pleased and instructed by his exposition, and will endeavour to lay a short abstract of it before our readers.

He begins by asking, "if physicians are responsible for errors committed in the exercise of their profession," and justly observes, that although, according to the strict letter of the law, there can be no doubt that they are, yet that these very laws must necessarily prove nugatory in a majority of cases, from the difficulty of any court coming to a proper decision on the subject. In fact, as is observed by Dr. Beaude, in animadverting on the award in the celebrated trial of Dr. Hélié for amputating the arms of a fœtus in utero, which was afterwards born alive and survived the mutilation—

"A physician who has been regularly educated and received his diploma to that effect, presents to society the best guarantee possible, and having thus fulfilled all the obligations demanded of him, ought to be answerable to his conscience alone, in the treatment of his patients; if not, he is at once trammelled, and would not dare to try what perhaps would afford the only chance of escape to the patient, because if it failed, or was attended with unfortunate results, he at once became responsible for these consequences. The physician who acts conscientiously, and does what he deems the best for patients who commit themselves to his care, ought to have no judge but his God; any other doctrine is false, and could have but one result, that the morality of actions would be judged of by their fruits, and not by their intrinsic merits or demerits."

We fully agree in the view Dr. Beaude has taken, but at the same time are also convinced that certain laws rendering medical men responsible for gross ignorance and inattention are required, and more especially in this country, where the most arrant and unblushing quack is considered on a par, and even inspires more confidence than the physician who has devoted his life to the study of his profession.

There is another point connected with this subject that is of no slight importance, namely, what is to be considered the standard by which a medical man is to be judged, for although the law has equal bearings on all, it is evident, from judicial decisions, that much latitude is given to it when brought to bear on particular cases; or, in other words, it has been decided that what would be unjustifiable mal-practice in one member of the profession, would not be so in another. That such is the fact, however strange it may appear, cannot be doubted or denied. Thus, Judge Weston, in the case of *Lowell vs. Faxon and Hawks*—

"That whoever undertakes to practice physic or surgery, holds out to the public that he possesses a competent degree of medical skill, according to the general state of the medical science in the section of the country in which he lives. The highest degree of skill is not to be expected in small towns, where there is little competition and fewer motives for exertion, from the compara-

tive want of patronage, and the limited opportunities for professional improvement."

There can be no doubt as to the correctness of the view taken by Judge Weston, under our existing laws, and yet this very opinion is calculated to lead to strange results; it in fact establishes a different standard of medical skill for each section of country, and even for each village. Who is to decide in such cases? Suppose, for instance, a physician of the highest skill and acquirements settles and practises in a certain section of country, are the professional talents and abilities of all his neighbouring brethren to be measured by his? If so, what was innocent and legal practice before his arrival, becomes criminal after his appearance.

In fact, viewed in every light, the subject is environed with difficulties. It may be said that all this might be avoided by consultations in all difficult cases, or where important operations were to be performed; but this is not always feasible, and even granted that it were, if an unfortunate result occurred the number of supposed criminals would only be increased.

We might go at greater length into this important subject, but must content ourselves at present with advising such of our readers as have an opportunity to attentively peruse this portion of the work in question. R. E. G.

XVIII. *Arzelmittellehre und Receptirkunde zum Behufe der Vorlesungen*, entworfen von EMANUEL STEPHAN SCHROFF, der Heilkunde Doktor und Professor der Theoretischen und Praktischen Medicin für Wundärzte an der k. k. Medicinisch-Chirurgischen Josephs-Akademie, und KARL DAMIAN SCHROFF, der Heilkunde Doktor und Professor der Theoretischen Medicin für Wundärzte an der k. k. Universität zu Olmütz. pp. 428. 12mo. Wien, 1833.

Materia Medica and Pharmacy, for the Use of the Followers of the Lectures of E. S. SCHROFF and KARL D. SCHROFF, &c.

This manual, as the title imports, is intended as an accompaniment to the lectures of the Messrs. Schroff—the former of whom is professor of theoretical and practical medicine for surgeons in the Imperial Medico-Chirurgical Joseph's Academy at Vienna, and the latter professor of theoretical medicine for surgeons in the Imperial University at Olmütz—and it is probably well adapted for the purpose, although it would be but little calculated, we presume, for any other meridian than that of Germany. In proof of this we may cite their remarks on the classification of medicinal agents as well as the classification itself.

"As all the functions of the body may be divided into two classes, namely, into those of organic or plastic (formative) life; and those of animal (sensible and irritable) life, so all remedial agents may be ranged under two divisions—one of which comprises such as affect *plastic life*, whilst the other includes such as more intimately concern *animal life*. It must not, however, be presumed that the agents of one class affect one kind of life only; we are satisfied, that each remedial agent impresses the whole life, (*des gesammte leben*;) we merely maintain, that the agents of the first class *mainly* modify *formative life*, and those of the second class *mainly* the *higher animal life*. Now, plastic life may vary from the healthy condition, both as regards quantity and quality; but the

qualitative aberrations of formative life are too little known for us to attempt a corresponding arrangement of remedial agents. We can, however, separate those that correspond to aberrations in quantity, as regards plastic life, into two orders; the first of which comprises those bodies that *moderate formative life*; wherein we include—A, *evacuants*, and B, *relaxants*; whilst the second embraces such as *elevate enfeebled formative life*; wherein we reckon—A, *plastic*, and B, *tonic agents*.

“The agents of the two classes we divide into two orders—*excitants* and *sedatives*. Each order, again, is subdivided into two genera; namely, into A, *excitants of sensible life*, which are usually termed *diffusible excitants*; and B, *excitants of irritable life*, which are known under the name of *permanent excitants*. The sedatives, again, fall into two genera; namely, A, *sedatives of sensible life*, or *narcotics*, and B, *sedatives of irritable life*, or *antiplogistics*.” S. 43.

In accordance with these views, the Messrs. Schroff offer the following table of classification.

AGENTS.

CLASS I.		CLASS II.	
Affecting formative life.		Affecting animal life.	
Order 1.		Order 1.	
Moderating plastic life.		Excitants.	
Genus 1. Evacuants.		Genus 1. Excitants of sensible life—	
		Diffusible excitants.	
Genus 2. Relaxants.		Genus 2. Excitants of irritable life—	
		Permanent excitants.	
Order 2.		Order 2.	
Elevating plastic life.		Sedatives.	
Genus 1. Plastics.		Genus 1. Sedatives of sensible life—	
		Narcotics.	
Genus 2. Tonics.		Genus 2. Sedatives of irritable life—	
		Antiplogistics.	

The doses of medicinal agents, as the authors properly remark, must vary according to age, sex, temperament, constitution, habit, mode of life, nature and stage of the disease, &c. but they present the following table as in approximation to the doses required at different ages. It does not differ essentially from that of Gaubius.

“If we administer to a <i>man</i> , between 25 and 60 years of age,			
a drachm, as a full dose, - - - - -	-	-	60 grains.
We must give to a <i>youth</i> , between 14 and 25 years, of the same			
agent, 2-3ds; therefore two scruples or - - - - -	-	-	40
And to a <i>boy</i> , between 7 and 14 years, the half of the full dose;			
therefore half a drachm, or - - - - -	-	-	30
To a <i>child</i> , from 4 to 7 years, a third of the full dose; therefore			
a scruple, or - - - - -	-	-	20
To a child 4 years old - - - - - $\frac{1}{4}$ th - - - - -			
Do. 3 Do. - - - - -	1-6th	-	15
Do. 2 Do. - - - - -	$\frac{1}{8}$ th	-	10
Do. 1 Do. - - - - -	1-12th	-	7 $\frac{1}{2}$
Do. 6 months old - - - - -	1-24th	-	5
Do. 3 Do. - - - - -	1-48th	-	2 $\frac{1}{2}$
			1 $\frac{1}{4}$.” S. 36.

R. D.

XIX. 1831—*Jahres-Bericht ueber das Clinische Chirurgisch-ogenärztliche Institut der Universität zu Berlin, abgestattet vom Director der genannten Anstalt* Dr. CARL FERDINAND VON GRAEFE, &c. Funfzehnte Folge, 4to. pp. 34. Berlin, 1832.

The Fifteenth Annual Report, for the year 1831, of the Clinico-Chirurgical and Ophthalmic Institute of the University of Berlin; Drawn up by Dr. C. F. VON GRAEFE.

The periodical reports of the different hospitals of Germany are in general prepared with a great deal of care, and present always highly interesting, often very valuable information, both of a statistical and practical character. It is much to be regretted that the medical gentlemen connected with the institutions for the reception of diseased persons in this country, are not more generally in the habit of presenting in a somewhat similar form, the statistics of those institutions, together with the general facts connected with the particular class of patients received into their wards, and with the results of the medical and surgical treatment to which they are subjected. In this manner, with a very slight addition to their ordinary duties, they would be able to contribute no inconsiderable amount of valuable practical information, which physicians less favourably situated are precluded from acquiring by their own experience.

We have before us the very able Annual Report of the Clinico-Chirurgical and Ophthalmic Institute attached to the University of Berlin, for 1831, drawn up by Dr. C. F. Von Graefe. This report, in addition to a copious table, accompanied with numerous remarks, of the different accidents and diseases treated in the institution, exhibiting their character and results, contains a list of the physicians and students who attended the clinic during the year, and a series of observations on various topics connected with the cases which fell under the observation of the author as director of the institution. The several sections into which these observations are divided, are as follows:—

1. A new method of arresting traumatic hæmorrhage. In this are presented some interesting results of Dr. Graefe's successful experiments in arresting the discharge of blood from wounded and divided arteries, by a fluid, the composition of which is unknown, and which was first employed by an Italian physician of the name of Binelli, in the year 1797.
2. A case of extensive aneurismal bronchocele occurring in a young soldier, and incapacitating him, from its bulk, and the impediment it occasioned to the freedom of respiration from performing his military duties, which was completely removed by tying both of the superior thyroidal arteries.
3. A notice of the different modes of operating for cataract pursued in the Institute, and their general results.
4. Remarks on exarticulation by the linear and oval incision.
5. Remarks on Foot's operation for phymosis, which is preferred by the author.
6. A case of ramifying aneurism of the temporal artery, in a child of ten years of age, cured by an operation.
7. Case of ligature of the femoral artery.
8. Extirpation of the lower jaw.
9. Communications from Dr. Sat Desgallière.
10. Case of paralysis of the arm cured by frictions with ætherial spirits of ammonia and internally the Arnica blossoms.
11. Treatment of a general eruptive affection; and
12. On the sulphate of quinia as a preventive of cholera.

The whole number of patients treated in the Institute during the year 1821, was 1649, of which 422 laboured under diseases of the eye. Of these, 1300 were cured, and 16 died; 243 were removed to other institutions, and 90 remained under treatment at the close of the year. The number of operations performed was 416; of these 56 were upon the eye. The number of individuals who attended the Institute during the year was 287, including 136 practitioners.

D. F. C.

XX. *De l'Operation du Trépan dans les Plaies de Tête.* Par A. A. M. L. VELPEAU, Chirurgien de l'Hopital de la Pitié. Paris, 1833. pp. 274. Octavo.

We have here another chirurgical treatise, upon a subject of great interest, from the prolific pen of M. Velpeau. There are few questions in surgery which have elicited more research or greater difference of opinion than that of the time and circumstances demanding the application of the trephine in injuries of the head; and perhaps no one has been loaded with more irrelevant matter in evidence, and more palpable non-sequiters in reasoning. In the work before us, there is an attempt to define the former and expose the latter, and although it must be confessed that the subject is handled with somewhat of the zeal and consequent prejudice of a partizan, we rise from its careful perusal with the impression that it is calculated to do much good, and no where more especially than in this country. It would be vain to attempt a detailed analysis of a volume nearly one-half of which consists of a rapid enumeration of facts and opinions arranged under a great variety of heads, and the great part of the remainder, of a concentrated critique upon the tenets of individuals and schools of high authority. We shall therefore confine ourselves to a very general notice of the arrangement of the work, with a passing commentary upon a few points of peculiar importance. After a very short historical coup-d'œil, the author proceeds, in the second or "dogmatical part," to notice, seriatim, all the varieties of traumatic injuries to which the head may be subjected, pointing out where he considers the trephine to be indicated or contra-indicated, illustrating his positions by many cases and numerous references to authorities.

Contusions without fracture of the cranium only demand the operation primarily when the pericranium and dura mater are both detached, or likely to become so, rendering necrosis of the bone almost inevitable. In fractures of the external table only, he recommends the removal of all detached fragments as the more advisable course. Even when the diploe is crushed by contusing forces, he does not inculcate the use of the trephine, unless urgent symptoms supervene, agreeing in this respect with Sir A. Cooper. In fractures of the internal table only, the diagnosis is very obscure, and M. Velpeau remarks that they only demand the early interference of the surgeon, when a blow, not followed by visible fracture, produces the symptoms of a foreign body in the cranium, in which cases the trephine should be employed without hesitation, under the expectation of discovering spicula perhaps penetrating the dura mater.

In fissure attended with internal extravasation, the plan strongly recommended by some surgeons, that of widening the crack by a wedge, is justly condemned, and if the opening is insufficient to give ready egress to the fluids the trephine is recommended at once, notwithstanding that in such accidents the

chances of success are very small, because these crevices are a proof of very extensive fracture, often attended with undiscoverable mischief. In multiform fractures unattended with displacement, the trephine is only recommended in certain cases for the removal of consecutive accidents, but under the head of fractures with depression there are some very important remarks. Extensive and slight depressions may recover without inconvenience, but deep depressions are vastly more dangerous. When fixed or resistant, *they do sometimes recover without accident*, but the author thinks that when one patient might be saved ten would be lost. He grants, however, that in fixed depressions we may wait for decided symptoms before attempting to operate.

“Depression with mobility is infinitely more to be dreaded! An extravasation of blood, primitive or consecutive, is frequently the consequence. Even when there is no external wound, recovery is very rare. If the fracture is exposed, necrosis of the moveable fragments and deep-seated suppuration are almost inevitable. In all cases such depression is a permanent cause of meningitis, and pains and nervous accidents of all sorts. The operation of trepanning is the only efficacious remedy, and is imperiously indicated; unless, at least, it is advisable to renounce all surgery in wounds of the head.” p. 39.

M. Velpeau considers the trepan almost useless in cases of fracture with overlapping of the fragments, but even this rule will not hold in all instances; witness the very interesting cases mentioned by Mr. Bransby Cooper, and noticed in the review of his Essays in this number.

Under the head of gun-shot fractures and foreign bodies in the cranium, reference is made to show most clearly, that local contusions and wounds of the brain with or without loss of substance and subsequent suppuration of the cerebral matter, are not by any means invariably fatal, when the character of the injury admits of the free discharge of the fluids and flocculi; while on the contrary, every one knows that suppuration to any extent within the hemispheres is invariably fatal, when there exists no sufficient outlet. These facts are the foundation of the author's opinions on the use of the trephine in cases of the lodgement of foreign bodies of a fluid nature within the encephalon. He lays it down as a general rule that foreign bodies of every description should always be removed if their presence and location can be detected, nor does he hesitate to apply the trephine, to divide the dura mater, or to puncture the brain itself when necessary, to accomplish this all-important end. In some rare cases leaden bullets have remained in the cavity of the cranium for years without producing death, and it is a curious and important fact, *recognised by M. Velpeau*, that lead produces less injury to vital tissues than perhaps any other strictly foreign substance. Yet these cases in no degree invalidate the law, for they may be regarded as almost miraculous. He regards effused blood as a foreign substance, and insists on its evacuation under most circumstances, but to this there are exceptions. Blood between the dura mater and the bone is always collected within well-defined limits, and is rarely found in very great amount. From the nature of the surrounding tissues it is absorbed with great difficulty, and if extravasated in sufficient quantity to produce the symptoms of compression, these can only be relieved by its evacuation. In this situation it is exceedingly prone to degenerate, and almost invariably gives rise to suppuration in consequence of the changes it undergoes. Again, its presence in any quantity insures a necrosis of the whole thickness of the bone, which is in itself a suffi-

cient reason for the operation, and the operation has a greater chance of success if performed before the symptoms of irritation produced by the change in the character of the effusion, or by the morbid condition of the tissues involved have had time to supervene. If the quantity of blood extravasated is too small to prove injurious, its presence can scarcely be detected. It follows, then, that in effusions of blood above the dura mater, the trephine should be employed without hesitation whenever the diagnosis can be made out. The same remark holds good, with even greater force when pus is secreted in a similar cavity, excepting *always* those cases in which the removal of pieces of bone completely loosened by the accident, give a ready outlet to the fluids beneath. When blood is effused beneath the dura mater, into the serous cavity of the cranium, if it is arterial, it rarely distributes itself very widely, but is frequently circumscribed by adhesions; if, on the contrary, it is venous, it may spread over a greater space before it coagulates. When the quantity is small it may be absorbed; when large it produces symptoms, the gravity of which determine the necessity of the trephine. The success of the operation depends much upon the concentration of the effusion, but as this cannot be previously ascertained, the operation is not less indicated in the one case than in the other, nor when circumstances demand a resort to the measure, does a failure furnish any valid argument against its propriety. The serosity which surrounds the effusion contributes to its fluidity and causes it to spread, in many instances, and when it has become solid it is often difficult to remove it; these and other reasons have induced Sir Astley and Samuel Cooper, Abernethy, &c. to oppose the operation. M. Velpeau, while he grants that it is much less promising than in the previous instance, still defends it to a considerable extent. He insists only that it should not be decided on lightly, "severe symptoms of compression alone justify it," in his view. p. 59. Pus similarly situated would warrant the operation if it be circumscribed, which is not often the case, but it is altogether condemned when the signs of general meningitis are present, although in another part of the work, the question of the possibility of relief from extensive trepanning in cerebral inflammation is represented as perhaps still open to discussion, because it is found that the symptoms of such disease in traumatic cases are milder in proportion to the extent in which the bones have been removed.

When blood is thrown out into the substance of the brain, he regards the case as almost beyond the reach of surgery, but thinks some good may be done if death does not immediately follow, by using the trephine as a means of giving an outlet to the ruptured portions of the brain and the effused fluids, if nature attempts such an operation, and also to give room for the swelling of the brain consequent upon the accident.

"It results from what I have said, that in traumatic extravasations of the third kind, the object of the operation of trepanning should be, less to evacuate the blood than to put the organism in a condition to expel it by little and little, together with the contused or crushed parts, as inflammation and suppuration detach them. Acting also in the same manner with the incisions made to remove constriction around parts in a state of severe inflammation, it is then the only surgical recourse, having some claim to a trial." p. 62.

In traumatic abscesses of the substance of the brain, and in suppuration from wounds of the organ when the outlet is not free, the application of the trephine

is warmly advocated. The rare cases in which patients have recovered from such affections after fistulous openings have formed into the nose or ear, after caries has been produced, and the numerous instances in which such abscesses have been discharged through the opening of fractures, are regarded as proofs of its propriety. M. Velpeau seems to advocate puncturing the brain in very threatening cases of this character, but in commenting upon an instance in which Dupuytren plunged his lancet an inch into the hemisphere, and thus reached the cavity, he remarks—

“If the condition of the patient had not been too pressing, a precaution might have been taken, and the surgeon placed more at ease in this case. This would have been to wait, after having opened the cranium and the dura mater, before going further. It might happen, as in cysts of the abdomen treated by the method of M. Graves, (*Arch. Gén. de Méd.*) or in the manner of M. Begin, (*Journ. Hebdom. de Méd.*) that the sac distended by the pus, free from all compression toward one point, would generally be pushed in that direction by the expansive force of the brain. It would then be opened with great facility, if not promptly evacuated by the efforts of nature. We should have the advantage, moreover, by acting in this manner, of soliciting adhesions around the orifice made by the trephine, which would greatly diminish the danger of meningitis, and prevent the accumulation of pus between the dura mater and the brain.” p. 87.

He thinks that many patients die from the neglect of the trepan in cases of purulent deposits in the substance of the brain; an opinion with which we heartily coincide; but we may remark that in these cases the removal of a portion of bone is of exceedingly little importance unless the dura mater is also laid open by the surgeon. We have seen two cases of death *after the early employment of the trephine*, in consequence of abscess in the corresponding hemisphere produced by the contusion of the brain at the moment of the accident. In both cases the collections of pus were large, and approached within less than half an inch of the orifice in the cranium, but in neither case was the dura mater opened, although the diagnosis was clear, and death inevitable without surgical aid. Upon what principle is the surgeon excused in leaving such cases to their fate? Can he possibly do *harm* by his interposition?

In the third chapter the author speaks of “complex accidents,” and considers in very few pages the indication or non-indication of the trepan in compressions, contusions, concussions, and inflammations of the brain. Under the first head there are some remarks with regard to the mechanical forces habitually acting on the brain, which are not very perspicuous, but we need not dilate upon these sections, for they contain for the most part mere corroborations of the principles already noticed. One remark we will extract.

“Unless it is slight—so slight as to produce but very feeble accidents—contusion of the brain appears to me incapable of resolution. If it is carried a little further, we see it rapidly give place to a pulaceous matter, a true mixture of blood, altered tissues, and pus, which collection is not less to be dreaded than an ill-conditioned abscess. How is this termination to be prevented or obviated otherwise than by the operation of trepanning? If the cranium is open, the contused parts may be ejected by little and little, &c.” p. 97.

We cannot forbear one comment upon the prognosis of the operation if performed for the relief of contusion. The inertia of the whole cerebral mass seems to be too much neglected by authors who treat of injuries of the

head. The brain with its membranes is very compressible, in consequence of the number and size of its vessels which may be partially evacuated at any time by pressure. Now, in falls on the head, when the cranium is instantaneously arrested, the soft and yielding brain still retains its momentum, and would tend to flatten itself against that part of the cranium which first strikes the soil, were it not that the encephalon being impervious to air, the brain on the opposite side cannot quit its contact with the dura mater, without producing either a vacuum or an extravasation on that side. The former cannot occur at all, because the forces required to produce a vacuum are greater than those which would suffice to crush the cranium, and the latter cannot become considerable until some time has elapsed. But the inertia of the brain in motion, though it may not separate it from the dura mater, is sufficient to increase very greatly its pressure upon that side of the cranium which impinges, and diminishes it to an equal extent at the opposite surface. The necessary consequence of this double action is, that the blood in the vessels on the lower side is suddenly forced out, and that it rushes in additional quantities toward the upper side. The brain below is in some degree protected from the contusion by the gradual expression of its blood, which acts as a retarding force; but the reaction of this blood upon the coats of the vessels is an additional cause of danger at the upper surface. In severe falls, then, which produce no fracture, there must always be engorgement and sometimes contusion, and extravasation at the point opposite the external injury, even when there is no mischief to the corresponding side of the brain, but when fracture occurs there is injury on both sides, which, however, may be frequently less important at the wound than on the other side of the head. On the contrary, in injuries received from bodies in motion, such as stones, canes, &c. the inertia of the brain has little effect, and the contusion and extravasation are almost always found near the external wound. In the latter cases the prognosis after operating would be more favourable, while in the former, the trephine must be sometimes applied on the side opposite the blow, or, (if there be fracture with depression,) on both sides, and in either case the chance of success is much diminished. Extravasations and contusions from this species of contre-coup can very rarely occur externally to the dura mater, and therefore their presence is only inferred from the nature of the paralysis which supervenes; the uncertainty of the diagnosis adds then to the difficulties of the case; yet we are by no means prepared to oppose the views of M. Velpeau as to the indications of treatment.

The author then proceeds to consider the more remote morbid consequences of injuries of the cranium, such as fixed pains at the site of the former wound, whether permanent or intermittent, convulsive or tetanic movements, or true epileptic paroxysms. When such cases become threatening the trephine should sometimes be employed, care being taken to avoid deception from mere nervous symptoms, and sympathetic affections which may falsely appear due to the injury. A considerable number of references to authority are adduced in relation to the propriety and safety of operating under such circumstances.

The fourth chapter is given chiefly to the symptomatology of the several classes of injury to the head—irritation, compression, contusion, concussion, and inflammation. It contains some interesting remarks, but it is to be regretted that M. Velpeau has not enlarged this portion of the work so as to present

a more complete view of the diagnosis, particularly in cases of a mixed character. The next chapter treats of the application of the trephine on various parts of the cranium. Neither the vicinity of the great sinuses, nor the chief trunk of the middle artery of the dura mater, are considered as objections to its use. Hæmorrhage from the former vessels, he thinks, may be readily arrested, and that from the latter is not generally alarming. The necessity of involving the sutures, or dissecting the temporal muscles, is not held a more serious objection, and when circumstances require it he recommends the operator to disregard the frontal sinus, the occipital and parietal protuberances, and even advises the occasional application of the trephine over the cerebellic fossa and the mastoid process.

Lastly. The dogmatic part of the work is completed by a few remarks on the degree of importance attached to the operation of trepanning without reference to the accidents that demand it. It is treated as a proceeding attended with little intrinsic danger, and as by no means severe. That both the difficulty and the probable ill effects of the operation have been greatly exaggerated we can well believe. According to M. Velpeau, the only plausible objection urged against the use of the trephine, when distinctly indicated, is the consequent exposure of the brain to the air.

"The idea of Munro, revived by Bell, (Benjamin Bell?) as to the danger of placing the serous surfaces in contact with the atmosphere, has taken such deep root in the minds of surgeons, that it is almost rash to think of disputing it." p. 142.

Our author does dispute it, and very ably too, though he may be pleased to hear that the doctrine has not taken deep root on this side of the Atlantic, nor is it by any means so prevalent as he seems to think in Great Britain.

Of the third part of the work, entitled an "*Estimate of Doctrines and Facts*," we shall have little to add after recommending it to the perusal of all who have access to the work. It is a gentlemanly review of the opinions of the most distinguished surgeons, occasionally severe, but always fair and candid. In the chapter on American facts and opinions, he notices the paper of Professor Eve, published in this journal during the last year, the report of cases by Dr. Norris, house surgeon of the Pennsylvania Hospital, and the very important communications of Professor Dudley, of Lexington, in the *Transylvania Journal of the Medical Sciences*. Beyond these facts, he says, "we find almost nothing upon the trephine in the writings published by our profession in the United States." p. 192.

The fourth and last part is given to the consideration of the occasional ulterior ill consequences of the operation, such as tumours issuing by the opening, hernia cerebri, swelling, or what M. Velpeau calls rarefaction of the bone, &c. The last-mentioned affection is nothing else but an enlargement of the solid portion of bone, affected by the vessels of the bone itself, independently of its membranes, and which sometimes produce pressure on the brain long after the cicatrix appears perfect, as it did in a case but too well-remembered in this city, in which, after recovering from a fracture from a pistol-shot the patient recovered, but died a long time after, from the effects of such a tumour. This case is alluded to in the work under notice.

In taking leave of the reader we recommend the perusal of this treatise to all

American surgeons, not for its originality, but for its candour. It is rich in interesting cases and references, and appears to establish most completely many of the principles advocated. We cannot go the quite full length with M. Velpeau in recommending the trephine in certain cases, but we firmly believe that those who read his remarks will be prepared to act with more decision than is now customary in cases of injuries of apparently desperate character. There is one principle advocated by some very distinguished men in this country, which is sometimes applied, by their juniors at least, in a manner deserving of all reprobation—it is this, that a dangerous and extremely doubtful operation is to be avoided in many cases, simply because the failure may compromise the reputation and destroy the usefulness of the surgeon! This feeling, to our certain knowledge, has prevented the use of the trephine in many cases in this country. Now, though we are no ardent lovers of mutilation and the knife, we never witness a surgeon in debate upon a case involving the certain loss of life, if left to nature, and making out his opinion of the *indications* by casting his *reputation* into the scale, but with a kind of nervous shudder and certain reminiscences of a court and jury.

R. C.

XXI. *A Compendium of Operative Surgery, intended for the Use of Students, and containing a Description of all Surgical Operations. Illustrated with Engravings.* No. 1. By THOMAS L. OGIER, M. D. Lecturer on Anatomy and Operative Surgery, and THOMAS M. LOGAN, M. D. Lecturer on Materia Medica and Therapeutics. Charleston, 1834. pp. 262.

A suitable manual of operative surgery, illustrated by plates, and adapted to the state of the art in this country is very much wanted, and we took up this little faciculus in the hope that it would prove the commencement of such an undertaking; but candour compels us to confess that our hopes have not been altogether realized.

The first number, the only one yet published, treats of the various forms of incisions, and the mode of handling the knife in performing them, the several varieties of suture, the different species of ligatures, the mode of tying the temporal and facial arteries, and the operation suggested by M. Manec for securing the lingual artery. In the introduction, the authors acknowledge the extent to which they have used the well-known works of MM. Manec, Coster, Velpeau, Sabatier and Blandin, and indeed the whole aspect of the number is peculiarly French. Waving all remarks upon the rules for holding the instrument and making incisions, not because they are perfect and unexceptional, we may notice that the bistoury is the instrument described as appreciable to almost all cases, and little more than a bare allusion is made to the scalpel, while as it is well known the instruments generally called by the former name are scarcely ever used in this country, except in punctures, in cutting from within outwardly, in laying open fistulæ, or in dividing parts upon the grooved director. The broad bistoury figured in the first plate, and fitted for great incisions, is an instrument which we have never seen employed. The English scalpel placed beside it, with the steel continued through the handle, and terminated by a raspatory is only seen in trepanning cases, and this particular specimen with its acuminated point, has a form very ill-adapted to the uses to which

the scalpel is usually devoted. Moreover, the long, conical director which always reminded us of the apparatus major, is miserably adapted to the end for which it was designed. Notwithstanding the many excellencies of French surgery, it may be remarked in perfect fairness, that the French were never noted for the excellence or beauty of their instruments. It is difficult to avoid the question, whether the authors could furnish the originals of these drawings from their own cabinets.

The crucial, the V, and the T incisions are all directed to be made with the bistoury, and the directions are adapted to that instrument only, but the authors acknowledge that the elliptical incisions should always be made with the scalpel. So, we think, should the others, unless under very peculiar circumstances.

In the description of sutures, no notice is taken of the fact that the interrupted and twisted sutures are almost exclusively used in this country. The quilled suture is an excellent resource in very extensive incisions, particularly on the abdomen, and the looped suture may *possibly* have its applications in some of the operations for the cure of deformities; but the glover's suture!—what doth it here! However, we believe it was once used after a *very celebrated ovarian operation in New Jersey, performed hors de la profession*. There is one objectionable circumstance in the plate representing the several sutures. In works designed as manuals for beginners, care should be taken that the illustrations of treatment should represent the remedy as applied in cases demanding its use; now, if we except the hare-lip, and possibly the wound of the nose, none of the incisions figured in the plate require a suture at all. This may be regarded as hypercriticism, but the first impressions made on the mind of a beginner are exceedingly important, and the matters of which we are speaking are purely elementary.

In speaking of the different modes of arresting hæmorrhage, the authors, we were astonished to find, make use of the following sentence.

“To arrest hæmorrhage during operations on the extremities, surgeons *formerly* used the tourniquet, which is so perfectly familiar to every one that it is useless to describe it here. Its application being very painful to the patient, it has fallen very much into disuse in France. In England and America it is *occasionally used*, though not so often as formerly.” p. 18.

The substitute mentioned is, of course, pressure by the thumb of an assistant on the principal artery of the limb. We cannot but esteem the authors mistaken on the facts of the case, but as it regards the expediency of the substitution, under circumstances which admit of a choice, we differ with them most decidedly, and feel confident of support in our opinion from four-fifths of the profession out of France, and from no small number in that country. Though pressure on the inguinal artery may not be very painful, it does not perfectly command the circulation of the limb, and certainly pressure on the subclavian is vastly more painful than the tourniquet, while it requires some skill in the assistant, and when the patient is restless, or the operation protracted, it is exceedingly insecure.

The authors advocate the torsion of the smaller arteries in preference to the ligature. We have so recently spoken of this plan of treatment that it is unnecessary to repeat the remark. (See Bibliograph of Sanson on Reünion in this number.) They mention the different forms and materials for ligatures, but take no

notice of the almost total condemnation of the flat ligature, and the scarcely less universal abandonment of animal ligatures in the country of their birth. Allusion is made to the beautiful forceps of Dr. Physick, for securing deep-seated arteries, and a figure is given in illustration, but by some strange misconception the needle is fixed in a position the reverse of the true one, thus depriving it of almost all the advantage derived from the forceps, and making it scarcely applicable to any artery beyond the reach of the needle alone!

We might make some further strictures, but the task is disagreeable. Some of those already made, fall most heavily upon the authorities from whom the instruments and measures censured are derived: but as these latter have been adopted in an American book, designed for the use of American students, we have felt it to be our duty to notice them more pointedly than we should have done had they been presented to us in their original dress. Doubtless the details of the more important operations will be much more interesting and valuable as the work proceeds. Wishing it success, we would only suggest, in closing these remarks, that it might be advisable to draw the instruments from such as are in actual use on this side of the Atlantic, and which have therefore undergone the last improvements of Yankee ingenuity. R. C.

XXII. *Du Choléra-Morbus en Russie, en Prussie et en Autriche, pendant les années 1831 et 1832.* Par M. M. AUGUSTE GERARDIN et PAUL GAIMARD, Membres et Commissaires de l'Académie Royale de Médecine, Envoyés en Russie par le Gouvernement Français, pour Etudier le Choléra. Deuxieme edition. Avec trois Planches gravées et coloriées, &c. &c. Paris, 1832. pp. 340. 8vo.

This volume comprises ten letters addressed to Count D'Argout, Minister of Commerce and Public Works of France, by the commissioners sent to Russia to study the cholera; with an appendix, consisting of an account of the plague of Moscow in 1771, compared with the cholera which prevailed in the same city in 1830 and 1831, together with various official documents relative to the progress of cholera, sanitary cordons, &c. &c.

The first nine letters are principally devoted to an account of the progress of cholera in the north of Europe, and of the means taken to arrest its march by sanitary cordons, with abundant illustrations of the futility of these measures, and even of their absolutely injurious tendency. We have, on a former occasion considered these subjects, (see No. for May, 1832,) and shall not now again discuss them; the more especially as subsequent observations have not led us to alter the views already presented. The tenth letter in the work before us is devoted to the consideration of the symptoms, anatomical lesions, and treatment of cholera.

The symptoms of this disease are unfortunately too familiar for it to be necessary to repeat what is said by our authors on this subject; but we must not pass by in silence the interesting clinical experiments of Dr. Czermak, Professor of Physiology in the University of Vienna, respecting the low temperature of the body, a *constant attendant* on this disease. From the experiments alluded to, it results—1st. That the feet are constantly found to have the lowest temperature, next the hands and the tongue, then the body, neck, scrobiculis

cordis, &c. (MM. Gerardin and Gaimard state that in the experiments made by themselves, the tip of the nose was found to be colder than the feet, whilst the region of the heart and the arm-pit was always the warmest.) 2d. That the temperature of the feet was as low as 14° R. and that of the tongue 15° R. Consequently there is no disease in which the temperature of several parts of the body descends so low as in cholera. In fainting, lypothymia, and the chill of intermittent fevers, the temperature of the body is never lower than 22° R. 3d. That the temperature may be of great importance in aiding our prognosis. In fact, no example of cure has been cited in which the temperature was below 19° R. and the higher the temperature was above this, the more favourable, *cæteris paribus*, is the prognosis.

We must also quote the following experiments of the same learned professor, relative to the temperature of the blood, compared with that of the other parts of the body. These experiments were made in a room, the temperature of which was from 15° to 16° R. and the blood examined was always drawn from the arm.

1st. Woman, æt. 27. Cured.	{	Tongue	-	-	-	-	-	-	$23\frac{1}{4}^{\circ}$ R.
		Hands	-	-	-	-	-	-	$21\frac{1}{2}$
		Feet	-	-	-	-	-	-	$19\frac{3}{4}$
		Blood	-	-	-	-	-	-	$24\frac{3}{4}$
2d. Woman, æt. 39. Died.	{	Tongue	-	-	-	-	-	-	$19\frac{3}{8}$
		Hands	-	-	-	-	-	-	$19\frac{3}{8}$
		Blood	-	-	-	-	-	-	$20\frac{1}{4}$
3d. Woman, æt. 54. Cured.	{	Tongue	-	-	-	-	-	-	$24\frac{1}{8}$
		Hands	-	-	-	-	-	-	$25\frac{1}{8}$
		Feet	-	-	-	-	-	-	23
		Scrobiculis cordis	-	-	-	-	-	-	25 1-16
		Blood	-	-	-	-	-	-	26 1-6
4th. Woman, æt. 21. Died.	{	Tongue	-	-	-	-	-	-	19
		Hands	-	-	-	-	-	-	18
		Blood	-	-	-	-	-	-	$21\frac{3}{4}$
5th. Woman, æt. 62. Cured.	{	Tongue and air expired	-	-	-	-	-	-	$20\frac{1}{8}$
		Hands	-	-	-	-	-	-	$22\frac{3}{8}$
		Blood	-	-	-	-	-	-	$22\frac{1}{4}$
6th. Man, æt. 48. Died.	{	Tongue	-	-	-	-	-	-	23
		Hands	-	-	-	-	-	-	$22\frac{1}{8}$
		Blood	-	-	-	-	-	-	26
7th. Man, æt. 60. Cured.	{	Tongue	-	-	-	-	-	-	$25\frac{1}{8}$
		Hands	-	-	-	-	-	-	$23\frac{3}{4}$
		Blood	-	-	-	-	-	-	27
8th. Man, æt. 32. Died.	{	Tongue	-	-	-	-	-	-	21
		Hands	-	-	-	-	-	-	$20\frac{1}{2}$
		Blood	-	-	-	-	-	-	$21\frac{3}{4}$

One of the most interesting points in the history of cholera, is the changes in the composition of the blood; and our authors have collected some valuable information on this subject. M. Hermann, professor of chemistry at Moscow, found the blood of a young man in good health, to contain 43 parts of coagulum, and 57 parts serum, the latter having a specific gravity of 1.027. In persons labouring under cholera, the normal proportion of these constituents of the blood are always different; the quantity of the first being always increased, and that of the latter diminished. Moreover, what is very remarkable, and this observation has been amply confirmed by subsequent analysts, the proportion of

coagulum increases with the violence of the disease, so that it attains its maximum just before the death of the patient. When the patient recovers, there is observed an alteration in the composition of the blood, progressively diminishing. The proportion of the constituents of the blood, according to the intensity of the disease was in 100 parts—

Coagulum,	50	55	60	60.3	62.5
Serum,	50	45	40	39.7	37.5
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	100	100	100	100	100

The blood of a patient who had had cholera, and who was afterwards attacked with a febrile paroxysm, presented the following proportions.—Coagulum, 44.25; Serum, 55.75 = 100. The proportion of albumen in the serum also augments in proportion to the intensity of the disease, and attains its maximum just before death, as is proved by the following experiments of Professor H. The specific gravity of the blood of a person attacked with cholera at the onset of the disease before he had had any watery evacuations was 1.027, the specific gravity of the blood of a healthy person as just stated. But as soon as this crisis occurred, the quantity of water in the serum commenced to diminish; the specific gravity of the blood increased to 1.028, subsequently to 1.032, and blood drawn from a patient four hours before his death, was found to be 1.036.

These observations on the alterations in the proportion of the constituents of the blood, are confirmed by the experiments of M. Wittstock of Berlin. He has found, that when the blood taken from the right ventricle of persons who had died of cholera, was carefully dried, 30 per cent. of solid matter was always obtained, whilst in health, blood only yields 21 per cent. This skilful experimenter, also found the serum of the blood of a man aged twenty years, who died of intense cholera, to have the specific gravity of 1.0447, and to yield on evaporation 16½ per cent. of solid matter. The blood was drawn by bleeding some hours before death. In a young woman in good health, M. W. found the specific gravity of the serum to be 1.028, and this liquid to yield 9½ per cent. of solid matter. The serum of a cholera patient who was cured, yielded 14½ per cent. of solid matter, and its specific gravity was 1.041.

The fluid of the alvine dejections, it is stated, were found to be very alkaline, to become opaque by the action of heat, and to be rendered turbid on the addition of corrosive sublimate, showing that it contained much albumen. The repeated analysis of the dejections in the hospitals of Berlin, are said to have always given the same results. These results are the reverse of those obtained by Dr. Twining of Calcutta, who states that he found the conjee stools not coagulable by heat.

The following is a summary of the lesions observed in cholera, as given by our authors.

“The more rapidly fatal the disease proves, the less constant, marked and identical are the cadaveric lesions; sometimes even there is no appreciable disorder. This absence of all lesion, however, is an evident proof, that the derangement of the system of innervation ought to be considered the first and most important.*

* The correctness of this last proposition might be contested; and we think, controverted.

"The afflux of blood to, or the active congestion of the intestinal canal, appears to be especially concentrated upon the mucous membrane of the small intestines. This membrane is tumefied, spongy, impregnated with a whitish fluid: the exudation of which it is the seat, at first clear and watery, becomes more consistent, and lines the internal surface of the mucous membrane with a flocculent or gelatinous substance, very similar to a pseudo-membrane.* This exudation is sometimes traversed by very fine capillary vessels, which are particularly observed at those points which adhere most firmly to the intestine.

"To this series of phenomena there is joined, the suppression of the urinary secretion, and doubtless also, that of the pancreatic liquor; the bile retained in the gall-bladder, no longer flows into the alimentary canal: then, either the plasticity of the secretions increase, and the alvine discharges are moderated; or, what is frequently the case, the albuminous lymph secreted remains suspended in the intestinal fluid, in the form of white flocculi.

"In consequence of this intestinal exhalation, the mucous membrane swells, and resembles a very fine porous sieve: its valves, especially those in the jejunum, become flaccid and floating, and of from two to three lines in size. The tissue of the intestine is of a rose colour; glandular, tubercular bodies of various sizes are developed, especially in the lower convolutions of the ileum. We will presently describe the structure of these recently-formed bodies.

"The dejections composed of a bloody water, mixed with brown or reddish flocculi, indicate in general the approach of death. In this case there is found a considerable softening of the mucous membrane, especially of the middle and lower portion of the small intestines: this membrane is of a grayish-red, and appears infiltrated with water and bloody mucus; moreover, we find that the extremities of the vascular ramifications are free and as if open on the surface of the intestine; by slight friction small cylinders of coagulated blood may be pressed out of them. If the disease has been very violent and promptly fatal, there is often observed ecchymoses and even very extensive sanguineous effusions, which extend over entire convolutions of the intestine.

"These alterations progressively diminish in the mucous membrane of the cæcum and colon, so that this membrane is found only relaxed, coloured in many places of a bluish-red, and covered in places with small tubercles which more rarely unite forming plates." pp. 134-7.

These different alterations have been observed by the German physicians, and particularly by the learned professor of pathological anatomy, at Vienna, Dr. Wagner. The granulations and plates, our authors think, should not be considered as causes, but as accidental effects of the disease, since they are not constantly found in cholera patients, and analogous though less marked alterations had been observed at Vienna several months before the appearance of cholera. The granulations and plates just noticed do not consist, it appears, of enlarged glands of Brunner and Peyer. In fact, this kind of tuberculiform eruption exists not only at the lower part of the small intestines and commencement of the cæcum, but is met with in the stomach, œsophagus, and even in the tongue.

* We have been shown by our friend, Professor Horner, a portion of the small intestine of an individual who had died of cholera the present autumn at the Philadelphia Alms-House, completely lined with this pseudo-membrane, and which in every respect resembled the membrane sometimes found lining the trachea of those who die of croup. We are promised for a future No. an account of the researches of the distinguished anatomist just spoken of, into the anatomical lesions in cholera.

Professor Czermak, and his adjunct, M. Hyrtz, have made some minute injections and microscopical observations in order to discover the nature of these lesions, and the results of their investigations show, according to our authors, that the alterations in question are not erosions, for there was no extravasation of the matter of the injection. This matter passes easily into the follicles of Brunner and Peyer, but not into the tuberculiform bodies; but the intestinal villi are more readily injected than in other bodies: these injections are also made as readily, and even more easily by the veins than by the arteries, in cholera patients. But if the lymphatic vessels are injected, the tubercles and plates regarded as erosions are equally filled; whence it results that these tubercles and plates result from the development of the lymphatic vessels, so well described by Hedwig, Rudolphi, &c.

Our authors state that they saw in Russia and in Prussia, in many post mortem examinations, and at Vienna in numerous preparations preserved in spirit of wine, at the lower portion of the small intestine, elliptic or spherical plates of the diameter of from half an inch to even two inches, the surrounding villi being normal, whilst those at the circumference of the plates were more developed, showing the size of these plates. Sometimes the development of these villi, as they changed to form the plates, could be distinctly observed. A beautiful coloured plate illustrative of the lesions we have noticed is given.

Much interesting information has likewise been collected by our authors, relative to the remedial powers of various measures proposed for the cure of the disease in question. When the disease first invaded Europe many physicians thought that the disease was a form of malignant intermittent fever, and that it might be cured by bark. Unfortunately, experience has not justified this hope, and after the numerous trials that have been made with this remedy without success, our authors think themselves justified in confidently advancing it as an axiom, that—

“Bark and its preparations administered with the view of treating algid cholera as a malignant intermittent have not produced the beneficial effects which were expected.”

Other practitioners with the view of arresting the evacuations resorted to opium and its preparations as the basis of their treatment; but these were found according to our authors to increase cerebral venous congestion, and they were finally proscribed in Russia, Prussia and Austria.

The physicians of the north of Europe believed that they could arrest the afflux to the digestive organs, by exciting an active derivation to the external surface. With this view they resorted to vapour baths and frictions. The patients surrounded with vessels filled with hot water, parched oats, hot sand, &c.; and hot drinks were administered. The result of these measures, for the most part, was to precipitate the progress of the disease. Hot drinks increased the changes, rendered the thirst inextinguishable, and produced renewed evacuations; the different articles and numerous coverings with which the patients were overburdened, were so insupportable, from the uneasiness, anguish, and inexpressible anxiety which they determined, that the dying summoned all their strength to relieve themselves from them. These measures in all instances exhausted the strength of the patients, and destroyed the little vital energy

which lead to or induce the period of reâction. Vapour baths were particularly employed in Russia, but their utility was considered so doubtful that their use was abandoned in Prussia and Austria. In France, England, and in this country, where these measures have been subsequently employed, their inefficacy and even injurious tendency have been fully recognised. Had the practitioners in these latter countries taken proper measures to ascertain the results of experience elsewhere, much suffering might have been spared to cholera patients.

As to the various stimulants, our authors state, that—

“All practitioners agreed in regarding them as often inefficacious, and still more frequently as aggravating the symptoms they were given to relieve.”

The mode of treatment which seems to have united in its favour the most eminent practitioners of the north of Europe, is that by *emetics* and *cold*. The following was the method of treatment pursued at the temporary hospital of Aboukoff at St. Petersburg, and by means of which cures were effected which often struck our authors with astonishment.

“As soon as the patient entered the hospital he was placed in a bath of from 28° to 30° R. (95° to 100° Fah.) and retained in it for half an hour or an hour; he was then placed in a warm bed and rubbed all over with ammonia, whatever might be the intensity of the disease. A draught, containing four or five grains of emetic, was immediately administered in divided doses, and at shorter or longer intervals. As soon as the action of the medicine became manifest, the nature of the matters vomited changed; they became better, and presented a bilious and poraceous aspect. From this moment the cholera vomiting ceased and rarely returned; the diarrhœa was arrested, or much diminished; finally, after some hours the symptoms of reâction were progressively manifested; in a word, the algid cholera was changed to febrile or inflammatory cholera.” p. 149.

Our authors have presented in much too favourable a light the results of the above treatment. Thus they state that of 313 patients treated by the above method, 231 were cured, or 74 per cent. which is extraordinary success in cholera. But it appears from a table joined to the work that the whole number of patients received into the hospital of Aboukoff was 626, of which number 122 were received dead, leaving 504 actually received alive into the hospital, of which number 106 died in twelve hours, 85 in twenty-four hours, 55 in three days, 14 in six days, 13 in ten days and after; making the whole number of deaths 273, and cures 231, which shows the mortality to have been upwards of one-half. To make out the favourable results of treatment as given by our authors, all those who died within twenty-four hours after admission are considered as received in the stage of agony, and are excluded, and those only who lived beyond the period just mentioned are considered as having been treated. Now if those patients alone who are received before collapse, or who live upwards of twenty-four hours after being taken under treatment are to be considered, there are few hospitals or modes of treatment which cannot boast of great success. We do not think then that any evidence has been furnished of great success having attended the method adopted in the hospital of Aboukoff, and certainly subsequent experience has not induced practitioners to repose any confidence in this method of treatment; indeed both the warm bath and tartar emetic appear to have been pretty generally abandoned.

At Vienna, our authors state, that the ipecacuanha was administered with positive success in the different forms of the disease, and at different periods of the epidemic. The employment of this substance was not limited to a particular establishment, its use was general in the civil and military hospitals of Austria, and every where it is said to have justified the confidence of practitioners.

"The ipecacuanha was commonly administered in the dose of from 10 to 15 or 20 grains, at once or in divided doses, according to the age and constitution of the individuals. If in an half hour or hour, this remedy did not operate, it was repeated a second or third time; its action being favoured by warming the patient and exciting perspiration, (unless it rendered him uncomfortable,) by means of dry heat. The limbs were surrounded with flannel or warm cloths, and repose and even immobility of the body was recommended. The horizontal position was preferable to every other. Attentive nurses watched the motions and administered to the wants of the patients, who were strictly forbid not to rise or leave their beds, for when they did so, as soon as they returned to them they fainted and speedily died. Cold drinks, often slightly acidulated, replaced with great advantage, the hot and aromatic infusions to which the patients exhibited a great aversion; finally, cauterizing sinapisms over the abdomen, over the chest and even upon the neck; frictions with camphorated, volatile linament, combated with much success, the spasms and cramps in different parts of the body. By the combined employment of these means, algid cholera speedily terminated in a return to health, or assumed a second form, or that of reaction." p. 158-9.

The evident success obtained by the use of cold drinks, soon gave rise to the treatment of algid cholera by cold. The following is the account of this method as employed by Dr. Günthner, at the great general hospital of Vienna.

"Cold was employed *internally* and *externally*, in the form of water and ice.

"Internally, according as a greater or less degree of cold was desired, recourse was had to spring water, ice water, and even small pieces of ice. Spring water was given by mouthfuls, every two or three minutes. Ice was administered in pieces of the size of a hazel-nut, every five or ten minutes. In mild cases the degree of cold was gradually augmented, but when the disease was violent and urgent, the highest degree of cold was immediately used; it was continued even during the increase of diarrhœa and vomiting; and when these symptoms had ceased or subsided in an evident manner, the intensity of the cold was by degrees lessened, until it was at the temperature of water which had remained some minutes in a room at the temperature of 12 or 15° Reaumur.

"When the diarrhœa did not yield to the use of ice internally, it was stopped by one or two injections of cold or ice water. Externally, cold was employed in the form of lotions of cold or ice water, and frictions on the surface of the body with pieces of ice. The lotions were applied with sponges or towels. The limbs and sometimes the whole body were rubbed with ice until they began to grow warm, which most usually occurred in five or six minutes. Then the patient was rapidly dried with towels moderately warm in which he was enveloped. Soon and gradually the surface of the body increased in temperature; vital turgescence insensibly developed itself, the choleric appearance of the face and the spasmodic pains of the inferior limbs was dissipated, perspiration more or less free, announced that imminent danger no longer existed.

"In the most violent cases, the more the features of the face were distorted, the smaller and more insensible the pulse, the colder and more livid the surface of the body, the more violent the cramps of the limbs—the more necessary was it to persevere in the internal and external use of cold. In these cases frictions with ice were preferable to lotions with cold water.

"An important remark, which we must not pass over in silence, is, that the

external employment of ice was always preceded by its internal administration; the former was never used alone; moreover when the lotions or frictions were discontinued before the body had become warm, precious time had been lost and it was necessary to recommence their employment.

"A phenomenon of much interest, is the agreeable sensations experienced by the patients after this treatment; they ask for and insist on the repetition of the lotions and frictions, they drink the cold water, and suck the pieces of ice with inexpressible delight; they reject with a kind of horror all medicaments. Certainly if nature has given to suffering man an instinctive faculty to discover remedies appropriate to the nature of his disease, it can be affirmed that the action of cold is the only one that will always be agreeable to cholera patients, and which will invariably be sought by these unfortunate beings even in their last moments. Even when the termination of the disease was unfortunate, it was still easy to recognise the energetic influence of this method, by the various modifications it exercised on the circulation, the colour and heat of the skin, the quantity and nature of the excretions, &c.

"From the middle of September to the end of October a hundred patients were treated by this method, of which number, sixty-five recovered, and thirty-five died. From the last of October to the 12th of December, forty-two patients received this treatment, of this number thirty-four were cured, and eight died.

"It appears from these authentic documents, that of all the curative methods that by cold has proved most efficacious, since nearly two-thirds of the patients were cured by it, a proportion of cures not yet obtained in any other country.

"The employment of cold has also other advantages. Whilst hot drinks excite only disgust, increase the thirst, and in place of relieving it, produce anguish and agitation; cold drinks, on the contrary, gratify the wishes of the patients, render them calmer and more docile. These drinks also supply rapidly to the system the losses caused by the excessive evacuations."

Under this treatment a prompt cure is often obtained; but in violent cases, an inflammatory state supervenes, most frequently congestion of the brain and chest. These congestions and local inflammations cannot be ascribed, however, to the action of cold, as they supervene after every method of treatment. They demand for their cure antiphlogistic remedies.

The details of six cases treated according to the above method have been given by our authors.

In desperate cases an attempt was made in Vienna to cure the disease by the conjoined employment of cold and stimulants; but of fifty-eight cases, nineteen only were cured.

From the space we have devoted to this work, it will be readily concluded, that we estimate highly its merits. Indeed, notwithstanding the many works which have since appeared on the subject, and the enlarged experience the profession has had in the disease of which it treats, this volume may be consulted with much advantage; and may be ranked among the most valuable contributions to our knowledge of the terrible scourge which has swept over the greater portion of our globe, and is even at the present moment committing its ravages in various parts of our country.

XXIII. *General Observations respecting Cholera Morbus.* By J. N. CASANOVA, C. M. D. of the Royal College of Medicine of Cadiz. Philadelphia, Carey & Hart. pp. 173. 8vo.

The principal novelty in this work is the recommendation of tobacco smoke as an enema in cholera. Dr. Casanova asserts, that—

“Out of two hundred and five *successful* cases which have been treated by myself and two *other* medical friends of Calcutta almost exclusively with the tobacco smoke, there was not one single death.”

We do not feel disposed or prepared, having no experience with the remedy in this disease, to discuss the advantages of this mode of treatment, and will therefore submit the question without comment to the decision of the reader, upon the testimony, somewhat equivocally expressed, it is true, of the author, merely adding that his mode of administering the remedy is as follows:—

“For the purpose of injecting the tobacco smoke into the intestinal tube, I use a patent enema syringe, with two cocks instead of valves, to be moved by a lever, which performs the same operation as an air-pump, (*such as those stomach-pumps made by Maw & Son, London.*) At its *bottom end* I apply the tube to be introduced into the anus, which is to convey the smoke into the intestines: at its *side end* I adapt a large common German pipe, or something like it, but of a good size to hold at least four drachms of tobacco finely cut, and a *good* piece of fire on the top of it.” p. 170.

The object of Dr. C., as stated in his introductory remarks, that of making himself useful to suffering humanity, is a highly laudable one, but we must suggest that this object might have been better accomplished had he submitted his manuscript to the revision of a competent person, before committing it to the press. As the production of a foreigner, writing in a language with which he is evidently not familiar, we would be well disposed to overlook “some peculiarities of style and arrangement” in the work, but these peculiarities are so monstrous, as to deter us in some measure from examining the opinions of the writer, being not sure that we clearly comprehend them. We are led to entertain these doubts, not only from the many inaccuracies of expression, of which the brief extracts we have made will furnish examples, but also from the startling character of some of the assertions. Thus, among other statements, Dr. C. avers that—

“Having analyzed the blood of many subjects dead of the real cholera morbus, taken from their bodies from four to twelve hours after death, I have invariably found in it the same proportions of serum as those generally found in that of healthy persons.”

Now, this statement, if we rightly understand it, is in direct opposition to the observations of every writer we have examined, and positively the very reverse of what we have seen ourselves.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Some Points in the Anatomy, Physiology, and Pathology of the Vertebra. Column.*—The bulletin of the "Anatomical Society," in the *Archives Générales de Médecine* for March, contains a paper by M. Chassaignac, under the above title, which is worthy of notice, and of which the following is the substance:—

In this paper M. Chassaignac draws the attention of the "Anatomical Society" to the existence of certain osseous tubercles, situated at the base and behind the transverse processes of the lumbar vertebræ, on the same line with the articular processes, but a little below them. These little tubercles present the appearance of a lamellated process, especially in the two last dorsal vertebræ, and serve as points of attachment to the tendinous slips of the longissimus dorsi muscle, which has been erroneously described as attached to the articular processes.

The sixth cervical vertebræ also presents another tubercle, which we find, but in a less marked degree, in the other vertebræ of the neck. This tubercle is placed in front of the transverse process, and is the more prominent as the individual is advanced in age; it varies considerably, both in size and form, in some subjects being nothing but a simple osseous slip; in others forming a perfect hook, with the concavity turned forward. This process corresponds with the primary carotid artery, which is placed in front, and a little to the inner side of it, and furnishes so certain a guide to the vessel, that by placing a finger on the eminence, we may plunge a scalpel into the artery with the eyes shut, without any previous incision. In consequence of this connexion, M. Chassaignac has given it the name of *carotid tubercle*. The process can be easily felt through the integuments, at least in the dead body, being only covered by the skin, subcutaneous muscle, cervical fascia, and exterior edge of the sterno-cleido-mastoid muscle. To find it, we have merely to extend the neck slightly, and press the finger on the inner edge of the above-mentioned muscle, two inches above the clavicle; at the same time we should be careful that the neck is perfectly straight, for the least rotation is enough to alter the relations between the artery and tubercle. In the living body the process is not so easily discovered, in consequence of the greater resistance given by the subcutaneous and sterno-mastoid muscles.

In an anatomical point of view, the tubercle of which we speak serves to distinguish the sixth cervical vertebra from all the others, and to determine in a positive manner the situation of different organs in the cervical region. As applied to surgery, a knowledge of this process may serve to direct us with the greatest certainty to the primitive carotid, and in this respect is analogous to the osseous tubercle on the first rib, close to the edge of the subclavian artery.

It also presents a surface well fitted as a point d'appui to compress the vessel in cases of sudden hæmorrhage. In the case of a penetrating wound, with hæmorrhage, inflicted in the neighbourhood of this process, the blood may come either from the primary corotid, from the inferior thyroid, from the vertebral artery, or from the posterior or ascending cervical branches. The relations of these different arteries with the process in question may serve to determine the precise source of the hæmorrhage, a question otherwise extremely difficult to resolve. It is immediately below this process that the vertebral artery penetrates into the canal of the cervical vertebræ; the posterior cervical is below, and a little external to it; the inferior thyroid, crossing behind the carotid artery to gain the thyroid body, is also very close to it; the tubercle will, therefore, serve as a useful point *de depart* for the exploration of the surgeon when about to apply one or more ligatures. Should any difficulty be experienced in seeking this tubercle through the integument, it is immediately obviated by a division of the skin and superficial layer of tissue.—*Lancet*, May 24th, 1834.

2. *Communication of the Optic Nerves*.—M. NELATON has exhibited to the Anatomical Society of Paris a curious alteration of the commissure of the optic nerves in a person whose vision had not offered any sensible anomaly. The central portion of the commissure was degenerated into a gelatinous matter; on each side the optic nerves ran their course parallel, and communicated only by a nervous loop at the anterior border of the commissure. This interesting and probably unique specimen supports the opinion of M. Cruveilhier, who thinks that if there is any decussation of the optic nerves, it is only at the centre of the commissure; but in this specimen the nervous loop, a species of anastomosis constitutes a new mode of communication not hitherto signalized.—*Archives Gén.* February, 1834.

3. *Situation of the Decussation of the Anterior Cords of the Medulla Oblongata in Relation to the Occipital Foramen*.—The situation of the decussation of the anterior cords of the medulla oblongata is well known, but its position in relation to the occipital foramen was disputed, some conceiving it to be above, others below this opening. The question having arisen in the Anatomical Society of Paris whether compression on a level with the above-mentioned foramen would produce paralysis of the opposite side, a committee consisting of M. M. BERARD, CHASSAIGNAC and MONTAULT, were appointed to clear up the point, and they have ascertained by various experiments, that this decussation in reality is situated above the occipital foramen. This is a very important fact in relation to the diagnosis of lesions of the spinal marrow.—*Ibid.*

4. *Nerves of the Hand*.—M. CAMUS has communicated to the Anatomical Society of Paris a very interesting memoir on the distribution and termination of the nerves of the hand. He has shown the existence of gangliform corpuscles, annexed to the terminations of the nerves on the palmar face of the hand. These nerves are the only ones which have these appendages. Some of the members of the society doubt these small bodies being nervous; their existence is not however the less remarkable and interesting.—*Ibid.*

5. *Hermaphrodite*.—This curious freak of nature is thus described in the *Liverpool Medical Journal* for July last. "It is a native of Saxony, the only child of an officer in the Prussian army, and born in wedlock. The voice and features were those of a man, and the height apparently about four feet nine inches. A light, downy beard covered the upper lip; the mammae were not developed, and the chest was destitute of hair. The interpreter who accompanied the victim of this extraordinary freak of nature, stated that he was thirty-four years old, that at birth he was considered to be a female, and that he always dressed as such, and wore his hair turned up until little more than twelve

months ago, when, in consequence of Professors Blumenbach at Göttingen, and Tiedemann at Heidelberg, having some time previously told him he was a man, he assumed the male attire.

On examining the organs of generation, no penis was to be seen, but the *scrotum* was discovered, divided along the median line, the two halves resembling the external labia of the female, somewhat pendulous, and each containing a testis. The part corresponding to the *mons veneris* was not very well developed, and was moderately supplied with hair. On separating the halves of the scrotum, (or labia externa,) the *glans penis* came into view, resembling a large clitoris, and in the natural situation of the latter organ. It was covered with a prepuce, and had a fissure below, which was imperforate. About an inch lower down, and nearly half an inch to each side of the raphe, were two very small orifices, resembling abrasions of the membrane, and hardly admitting the point of a probe. Still lower was situated the entrance of a pretty capacious canal protected at its lower edge by a fleshy bridle somewhat of a semilunar form, which divided it from the perinæum. This canal was about three inches long, and terminated in a cul-de-sac, excepting that at the further end there was a narrow orifice, through which, when he was desired to make water, the urine flowed. The right scrotal half, (or labium,) contained a reducible hernia, for which he was operated on by Professor Bach, at Dresden, three years ago, when it first appeared. The testes descended, for the first time, along with the hernia. The cicatrix left by the operation is still visible on the left labium, and he wears a double truss.

He has pretty strong sexual desires, and says that he can perform in either character, but prefers *jouer le rôle de la femme*. He has nocturnal emissions, and emissions also on libidinous ideas being excited with regard to *either* sex—the semen flowing from the small orifices below the clitoris or glans penis. There was never any discharge resembling the catamenia.

This individual, as Dr. Sillar explained to the gentlemen in attendance, belongs to the fourth class of Sir Everard Home's division, (*Phil. Trans.* 1799,) viz. "where there exists a real mixture of the organs of both sexes, although not sufficiently complete to constitute the double organ."

PHYSIOLOGY.

6. *Experiments upon the Sounds of the Heart*.—M. MAJENDIE having recently drawn the attention of the Academy of Medicine to the above interesting subject, and propounded certain views of his own, which differ most essentially from those usually received, in ascribing the first sound to the shock or impulsion of the apex of the heart during its diastole against the thoracic parietes, and the second sound to the impulsion of the base of the heart during its systole, Professor Bouillaud, who has for many years distinguished himself by his zeal in the promotion of auscultatory medicine, deemed it proper to have recourse to direct experiments similar to those which Dr. Hope performed on asses.

He laid bare the heart of a strong, full-sized cock, having previously satisfied himself by auscultation that its two sounds might be distinctly heard. He then listened to its action at first while enveloped in the pericardium, and then when divested of it; with the naked ear, and with the stethoscope; and not satisfied with one examination, he made several; and the result of these was, that he could always hear quite distinctly the double sound, or tic-tac of the heart, although there was no point of contact between the organ and any part of the thoracic walls. The friction indeed of the heart against the end of the stethoscope caused a particular sound; but this sound, (simply one of rubbing,) was so very different from the tic-tac of the organ itself, that it is almost quite impossible that they can ever be mistaken for each other. When the heart was

cut out, by being separated from its attachments, it continued to beat for a few moments; but these beats of the empty organ were not accompanied with any perceptible sounds.

The preceding experiment was repeated twice upon rabbits with the same results; viz. the sounds of the heart were most distinctly heard, although neither during its diastole nor during its systole could it come in contact with the thoracic walls.

In conclusion, the Professor states that the results of his direct examination of the sounds of the heart have confirmed him in the opinion that the double bruit or tic-tac, which imitates so closely the clicks of a valve, is, in fact, to be attributed to the play of the valves of the heart.—*Med. Chirurg. Rev. and Journal Hebdomadaire*, No. 9, 1834.

7. *On the Relations of the Cranium to the Organ of Hearing*.—Professor MOJON, of Geneva, in a memoir read before the Royal Academy of Medicine, on the 25th of March last, has suggested some novel and very interesting speculations on this subject. Hitherto we have been led to view the cranium only as a safe recipient of the cerebral mass and of its appendages; but M. M. ingeniously supposes that it serves at the same time as an harmonic case, or drum, to the auditory organs. Treviranus, Esser, and others had already observed that the tympanum is not essentially necessary to the transmission of sounds, and that the sonorous undulations may be conveyed to the nerve of hearing by the medium of the cranial bones; but no one, before our author, had attracted the attention of physiologists to the curious relations which seem to exist between certain states of the cranial bones and the power of discriminating musical sounds.

The post mortem examination of Dr. Bennati, first suggested to M. M. the following speculations, and they arose from his observing that the bones of the cranium were much thinner than usual, translucent at many points, and soldered together along the line of the sutures.

A similar condition of the cranial bones has subsequently been found by him in the body of another celebrated musician.

This coincidence of cranial attenuation, and musical endowments, led M. Mojon to consider whether it was possible that the one might be related to the other as cause and effect; and he has been induced by numerous observations to infer that the cranium is by no means quite passive, in the perception of sounds, that differences in the thickness of its walls may have very considerable influence in determining the degree of acuteness of the faculty, and therefore that it may be regarded as a sort of harmonic case which communicates its vibrations to the organs of hearing.

In confirmation of these views our author alludes to the cases of deaf people, who often can perceive very distinctly the sounds of a piano, or organ, by applying one extremity of an iron rod to their forehead, and the other to the instrument; and who may be made to hear what is said to them if only the voice is directed by a speaking trumpet upon some part of the forehead. It is not unfrequently also that a person whose hearing is indistinct, and who chances to wear a wig, can listen with much greater facility when the head is quite bare, than when it is covered.

The curious observations of M. Perier, on patients who had been trepanned, and who were found to hear quite distinctly any sound directed upon the cicatrix, even when both ears were effectually plugged, (vide our last No.) may also be mentioned as illustrative of M. Mojon's speculations.

Comparative anatomy shows that in a number of animals the transmission of sounds to the organ of hearing is assisted by numerous large sinuses, hollowed out in the bones of the cranium. To us it seems by no means improbable that the musical endowments of the feathered tribes may be in some degree at least modified, or influenced by the very attenuated condition of their cranial bones, and by the existence of the elastic lamellæ, which are found between their

supernumerary cavities, as well as the passages or canals which extend into the labyrinth.

The only practical deduction from the preceding views, regards the assistance which may possibly be derived from attention to them, in our diagnosis of deafness, when we wish to discover whether it is owing to a palsied state of the auditory nerves themselves, or merely to some defect or injury of the adjunct members of the auditory apparatus. The every day occurrence of a person squeezing his head with both hands to deaden any very loud noise, may very probably effect the desired purpose, as well by interrupting the cranial vibrations, as by the direct obstruction of the auditory passages.—*Journ. Hebdom. No. 16, 1834.*

8. *On the Question of Venous Absorption.* By Dr. LUCHTMANS.—Mention is made by Hippocrates* and Galen† of absorption and inhalation, which they believed were effected in the human body through the agency of the arteries and veins. But when Harvey, in the seventeenth century, had fully illustrated the circulation of the blood, from which it was plain that the blood was conveyed by the arteries from the centre to the periphery of the body, the power of the arterial absorption was deservedly rejected.‡ Not long after the discovery of the circulation of the blood, Casparus Asellius, (anno 1622,) found vessels filled with a whitish fluid in the mesentery of a dog, and on the surface of the intestines, which he named lacteals and lacteal veins. Already some idea of these had occurred in Herophilus and Erasistratus, (three hundred years before the birth of Christ;) and even in the year 1556, Bartholomæus Eustachius saw the thoracic duct in a horse, but mistook it for a vein, and called it the white thoracic vein, therefore, many physiologists have assigned the function of absorption to these vessels, discovered by Asellius in the first instance; after that Olaus Rudbeck, (anno 1650,) more fully demonstrated the thoracic duct, both its origin and continuation from the lacteal veins.

When diligent investigation taught that the lacteal vessels, in appearance at least, differed somewhat from the lymphatics, but that this kind of vessels was commonly dispersed throughout the body, physiologists began to doubt the seat of absorption and its apparatus, moreover, to divide into opposite opinions. For some regarded venous absorption to be proved by the testimony of the ancients; others thought that this action was to be attributed only to the lymphatic vessels.

Glisson, Bilsius, and Swammerdam§ are among those who supported venous absorption, who, having tied the mesenteric veins in a live animal, and after some time having opened them, saw the blood contained in them mixed with white striæ, and imagined that this matter was absorbed from the intestines by the veins. But some explain these striæ to consist of coagulable lymph; others of chyle not well mixed with the blood, and more or less dispersed through the whole body; while Hewson and Rudolph determine that the chyle was received from the arteries.

It was the opinion of Haller that veins, with the power of absorption, arose with small open mouths from the cavities of the body, and the cellular tissue, &c. as appears from various passages in his *Elements of Physiology*.|| He also derives jaundice from the bile absorbed through the sanguiferous veins.¶ Others, as Rosen, Waller, Meckel, Lobstein, and Sir Astley Cooper, have observed, that mercury injected into the lymphatic vessels, passed into the branches of the vena portæ. Tiedemann and Fohmann have found this anastomosis to exist in the glands.

K. Boerhaave (anno 1730) injected water into the stomach and intestines of a dead dog, and after continual pressure for several hours, writes that it enter-

* Epidem. L. vi.

† Comment. in Hippocr. Epidem. L. vi.

‡ P. J. Van Maanen, Diss. de Absorpt. solidorum, p. 15.

§ Vid. Oudemans, Diss. de venarum imprimis meseraicarum fabrica et actione. Gronin. 1792, p. 90.

|| Tom. i. p. 151; tom. vii. p. 47; ubi dicit: "Facilis etiam et patula via ab iisdem (meseraicis) venis est in intestinum," et Tom. vii. p. 89.

¶ Sommering, de morbis vasorum absorbentium, p. 122.

ed the mesenteric and gastric veins, and propelled the blood.* But many persons, and among others Dr. Van de Sande,† contend, in order to render this argument unavailing, that the water penetrated through the organic pores, or through a rupture. J. F. Meckel filled the vesiculæ seminales with waxy matter, having tied the excretory ducts, and observed this matter penetrate the minute branches of the hypogastric vein. So, also, water injected into the bladder of a male subject passed into the same vein.‡ Neither Cruikshank nor Dr. Oudemans succeeded in this experiment, wherefore they suppose the injected matter passed into the veins through ruptured vessels.§

Moreover, others have alleged the deficiency of lymphatics in some parts, as in the placenta, which, however, appears doubtful; and that blood effused into the cells of the corpora cavernosa penis is taken up by veins.¶ They also adduce the capacity of the venous system, which far exceeds the arterial, and the small dimensions of the thoracic duct, as if it were not sufficient to receive and propel all the moisture which is contained in the lacteal and lymphatic vessels.¶ But even the slower motion of the venous blood corresponds with the greater capacity of the veins.

Here may be mentioned the arguments derived from tying or wounding the thoracic duct, such as Haller** and Flandrin†† bring forward, the lesion of which animals have survived a long time, seeming to prove that other channels exist besides the thoracic duct, by which chyle passes into the blood. Nevertheless, it is evident that these arguments are equally incapable of proving venous absorption, since a double thoracic duct has often been discovered.

Hence it appears that the arguments produced by many of the ancients to demonstrate venous absorption, have not placed this subject beyond all doubt; neither do the arguments taken from the incubation of eggs prove more—in which veins are present before arteries and lymphatic vessels: for a conclusion on so imperfect a state is scarcely tenable with respect to the human body.

Flandrin was the first who at length studied to recal the learning of the ancients on venous absorption; being urged by the observation, that the blood of the mesenteric veins in a horse had a peculiar aromatic odour, and analogous in taste to urine, which the blood in the remaining veins in the body did not possess. He injected into another horse half a pound of assafœtida, dissolved in honey, and smelt it in the venous blood, but not in the chyloferous vessels.‡‡ Magendie having succeeded him, instituted the following experiments. He separated in such a manner a part of the small intestine of a dog, which had been previously well fed, that it adhered to the body only by one artery and vein: one extremity of this portion being carefully tied, he injected the poison upon, and prevented its effusion by a ligature. Death followed as soon as if the poison had been introduced into the sound part of the intestine; appearing to him a proof that this poison was absorbed by the small branches of the remaining vein. Since, however, the slender twigs of nerves probably penetrate the coats of the artery, and follow their course, doubts can be started whether these poisonous effects cannot be explained by an affection of the nerves themselves.

He separated the thigh of a dog from the rest of the body, previously stupefied by opium, so that only the crural artery and vein remained, having removed the cellular coat of these vessels, lest lymphatic vessels might accidentally pass through this. He then injected two grains of the same poison into the foot of this side; the symptoms appeared as soon, and as powerfully, as when the poison is applied to a sound foot.§§

* De Perspir. diætâ Hippocr. Leidæ, 1738.

† Diss. de Venis lacteis, illarumque agendi modo. Gronin. 1784, p. 66.

‡ Experimenta et observ. de finibus vasorum, Berot. 1772, p. 49.

§ Oudemans, i. c. p. 28.

¶ Schreger, Fragm. Anat. et Physiol.; fasciculus I. Leipzig, 1793.

¶ Oudemans, i. c. p. 115.

** El. Physiol. tom. vii. p. 68.

†† L'Esprit des Journ. Oct. 1791, p. 375, seq.

‡‡ Magendie, Physiol. tom. ii. p. 263.

§§ Ibid. tom. i. p. 25, seq.

The experiments were repeated with the same result by Lawrence and Coates. It is, indeed, supposed that the poison was placed in contact with the blood itself, and passed into the circulation by a way made in this direction; but Emert, in experiments performed upon frogs, introduced the poison between the skin and muscles, and the same result ensued. It would, however, be difficult to show clearly that the application was made without injury to the smaller vessels.

Fodera filled a portion of the small intestine of a live animal with a solution of prussiate of potass: having tied the intestine on both sides, he saw, after he had placed the intestine in a solution of sulphate of iron, the lymphatic vessels and mesenteric veins tinged with a bluish colour.* My most esteemed instructor performed this experiment, after the interval of a year, and could only detect absorption of the prussiate of potass in the lymphatic vessels, but not in the veins. The prussiate of potass contained in the portion of the intestine was not changed in colour after half an hour, so that the sulphate of iron had not penetrated the walls of the intestine.†

According to Tiedemann and Gmelin, colouring, odoriferous, metallic, and saline matters, are, in the first place, absorbed by the mesenteric veins; the chyle especially, by the lacteal vessels. White striæ were also observed in the blood of the vena porta by these celebrated men, which they explain from the anastomosis of the lacteal vessels with the sanguiferous veins. Lawrence and Coates detected a solution of prussiate of potass both in the chyle and in the blood, although more abundantly in the blood;‡ the contrary was observed by the Society of Philadelphia.§

At length, Mayer injected a solution of prussiate of potass into the trachea of a rabbit; he found this sooner in the blood than in the chyle; and in the left ventricle of the heart before the right: the same thing occurred, although the thoracic duct had been tied; which, indeed, seems to prove that this solution was absorbed by veins from the bronchial extremities, but not by lymphatic vessels. The same person observed in a man who died from pulmonary affection, the veins of the small intestines, at least the minuter branches running on the surface of the small intestine, filled with a gray matter, similar to chyle, which were visible to the naked eye even at the margin of the valves of Kerkring. The greater trunks contained blood: the lymphatic vessels were empty, which difference he attributed to the venous system living longer than the lymphatic, or from the right side of the heart dying later than the left.

There is certainly a great difference between the manner in which functions are performed, during health, in the living body, and that in which they are exercised, and after vivisections have been instituted, by which, in addition to the other injuries, the nervous system, at least in many, is violently disturbed. Besides, the substances introduced or applied, in order to illustrate this or that physiological question, in the greatest degree differ from the nourishing matter naturally swallowed. Although, therefore, it would be very hazardous to apply rashly to the human body all opinions which depend upon experiments, nevertheless, we think it can be deduced from the experiments by Mayer and Tiedemann, that their opinion is not devoid of all appearance of truth—that the power of absorption exists both in the lymphatic vessels, the mesenteric and pulmonary veins.

Another question is added, which has lately been agitated by physiologists—whether another passage of the lymphatic vessels into the veins exists, besides the thoracic duct alone; either the insertion of several into the left subclavian vein, or occasionally into the right; whether, therefore, the power of absorption is peculiar to veins—whether they convey what the lymphatic vessels pour into the veins by anastomosis.

* Magendie, Jour. de Phys. tom. iii. p. 80.

† J. Koker, Diss. de subtiliori membranarum serosarum fabrica, p. 61.

‡ Lund, l. c. p. 65.

§ Ibid, p. 64.

Already anatomists have observed, while injecting the lymphatic glands, the veins sometimes filled with quicksilver.* It happened to J. F. Meckel, who saw mercury had penetrated the vena cava, after he had injected a lumbar gland,† which Hewson, Cruikshank, Mascagni, &c. attributed to ruptured vessels. Falconer‡ and J. F. Meckel, jun.,§ have observed the same thing. G. Vrolijk relates that he perceived such a communication in the phoca vitulina. Beclard affirms he often saw the passage of mercury both in the lymphatic vessels and the veins of glands, which, however, he did not attribute to the rupture of vessels.¶ V. Fohmann, who scientifically investigated this branch of minute anatomy, found the same in man; moreover, in horses, cows, cats, &c. From many of the glands in dogs the mercury passed only into veins. The lymphatic vessels of the small intestine in the phoca marina, appear to terminate only in the mesenteric veins; the same obtained in the bronchial gland.

He also observed in fish, as in the *torpedo marmorata*, and the *esox lucius*, an abundant anastomosis between the lymphatic vessels and veins in the neighbourhood of the heart, and on the surface of the organs subservient to digestion.

Many observations worthy to be read, on this subject, which have produced a similar result, may be found in Lauth.¶ Even the greater trunks of the lymphatic vessels, according to Lippi, are inserted in man into the renal vein, cava, and vena portæ. Outside the glands he has even represented, in plates, a horse and goose, having this complicated anastomosis; but Fohmann has proved this author to have mistaken sanguiferous vessels proceeding from glands, for lymphatic.

Hence, indeed, it seems to be proved that a communication exists between the lymphatic vessels and veins. Granting this to be true, many arguments alleged in favour of venous absorption would be invalidated; for then, to adduce an example, the chyle, already in the lymphatic glands, might be mixed with the blood in greater or less quantity, by the assistance of the veins.

It remains for us to notice, that even in our time physiologists might be cited, who strenuously deny both absorption of veins, and their anastomosis with lymphatic vessels, among whom Th. Soemmering and Rudolphi are particularly to be mentioned; for their injections do not show any passage of mercury from lymphatics into veins, neither in the dog, dolphin, birds, amphibious animals, nor even in fish; but if mercury should have passed into the veins, they suppose it attributable to ruptured vessels. The lymphatics of the small intestine in the phoca marina extend to a congeries of glands, which is commonly called pancreas Asellii, the lymphatic vessels proceeding from which converge into a duct of marked diameter, to be inserted into the thoracic duct itself;—an observation opposed to Fohmann. Rudolphi especially made the following objections to venous absorption:—1. The difference of structure between the lymphatics and veins. 2. Fluids injected into the cavities of dead animals are taken up by the lymphatics, but not by veins;—which argument does not affect the experiments instituted in living animals by Tiedemann and Mayer. 3. All odorous matters penetrate organs, but are not found in lymphatic vessels, because their nature is changed in the glands. Tiedemann found not only odorous, but also colouring matters, in the blood of the portal veins. 4. He deduces that some substances are found in the blood, but not in the chyle, both from peculiar causes moderating the absorption of these within the vessels, and from the chemical analysis of an organic substance not as yet sufficiently perfect.** But if chemical analysis could detect these substances in the blood, I do not see why they could not be discovered in chyle, which is as yet imperfect blood, and more simple. 5. According to his opinion, matter analogous to chyle ex-

* Haller, o. l. tom. I. p. 177.

† Nov. Exper. et Observ. p. 7.

‡ Experimental Inquiries: London, 1777; p. 46, *nota*.

§ Lindner, Spec. Med. de Lymphaticorum Systemate, p. 78.

¶ Anatomie Generale, 476.

¶ Rudolphi, i. c. page 256.

** Ibid.

isting in the blood, was not absorbed at first by the mesenteric veins, but was changed into genuine blood during sanguification.*

My valued instructor performed the following experiment before many pupils, in order to establish whether the passage of quicksilver from the lymphatic vessels and glands into the veins, was to be ascribed to ruptured vessels:—He carefully sought for the lymphatic vessels of the left fore-paw in a well-fed dog, which had been quickly killed by prussic acid, and injected with mercury a little vessel near the carpus; and pursuing the course of the lymphatic vessels to the axilla, there we saw a network of lymphatic vessels, conspicuous on account of the complicated anastomosis, with distinctly turgid valves, filled with mercury. All these lymphatic vessels entered the axillary glands. One larger gland, situated near the insertion of the cephalic vein into the axillary vein, was entirely filled with the quicksilver, without any rupture of the vessels or effusion of quicksilver, which could not be so easily detected in the other glands or lymphatic vessels. We were unable to discover, by the most accurate examination, any other lymphatic vessels going out from the other side of the glands; but a vein filled with mercury went out, terminating in the subcutaneous vein of the neck, which, like the jugular vein, contained mercury. A lymphatic vessel going out from another smaller gland, partially filled with mercury, appeared to extend to a greater gland. He injected a little mercury into a lymphatic vessel of the other foot, and separated it from the body, with the gland and veins which proceeded from the other side of the gland, and terminated in greater veins. We could not detect any lymphatic vessel going out. The parts being arranged on a table, he introduced a tube into a lymphatic vessel, towards the gland, when, after moderate pressure, we saw by the aid of the column of mercury, all the lymphatic vessels of the gland in nodules—not only filled, but the mercury soon began to flow from the veins. Upon increasing the pressure, this vein was turgid with mercury, when a ligature was passed round it. We could not detect in this experiment any rupture of vessels, after the most accurate examination. At length, having opened the thoracic cavity, we saw the thoracic duct turgid with transparent chyle, without a globule of mercury; which proves that mercury, in the former experiment, did not pass from the thoracic duct into the veins.

Should any one wish to establish that the mercury passed from the lymphatic vessels of the gland by ruptured vessels, after such slight pressure, it would be necessary, after the increased pressure, that the mercury should be effused from this rupture not only into the vein, but also into the cellular tissue surrounding the gland, so as to be extravasated; which was by no means the case.

Afterwards, an opportunity offering itself through the kindness of the veterinary professor, Numan, my instructor endeavoured to repeat these experiments in a colt. He filled with mercury the lymphatic vessels in the groin, at the os humeri, and in the mesentery; but after the mercury had entered the glands, an effusion of mercury always occurred from ruptured vessels. After employing less pressure, the glands, indeed, were filled with mercury; but the mercury neither passed from sound, nor from injured and ruptured glands, into other vessels, so that neither the lymphatic vessel going out, nor the adjacent vein, was filled. Perhaps the parts were more or less putrefying, from the increased temperature of the atmosphere, although no putrid odour was evident in the body. If the passage of the mercury from the glands into the veins was the result of rupture of the vessels, I do not see why we nowhere observed mercury passing from these glands into veins, but into the cellular tissue between the lymphatic vessels of the gland, which was expanded into large vesicles.—*Med. Gaz. June, 1834.*

9. *Structure and Functions of the Skin.*—The *Gazette Médicale de Paris*, for the 8th of February last, contains an analysis of a highly interesting memoir

* Rudolphi, i. c. page 245.

presented to the Royal Academy of Sciences, by MM. BRESCHET and ROUSSEL DE VAUZEME, on the structure and functions of the skin. In this memoir the authors endeavour to establish—

1st. That there exists in the skin an apparatus for the secretion of sweat, consisting of a glandular parenchyma which secretes this liquid, and of canals which pour it out on the surface of the body. These excretory canals are disposed in a spiral form, and open very obliquely under the scales of the epidermis.

2d. That the organs of absorption differ in some respect from the lymphatic vessels or veins, with which they nevertheless appear to communicate. These organs consist of transparent canals, of great fragility, branching or forming little arches of communication one with another, but in which we can discover no orifice or terminal mouth, which could serve for the purpose of absorption. It is this which leads us to believe that this function cannot take place by a kind of suction, but rather by imbibition, or by a mechanism, analogous to that of endosmose.

3d. That the medium in which these canals are situated, is a substance produced by a true secretion, which being strongly hygrometric, forms a body, by the medium of which the phenomenon, which we still call absorption, is effected; this absorption is only more promptly and more easily produced on mucous surfaces, because on these surfaces, the mucosity, which is analogous in more than one respect to an epidermic body, is less dense and more miscible with the liquids which are to be absorbed.

4th. That the papillary bodies are truly nervous, and the nervous filaments which enter in the composition of each papilla, do not terminate, (by bundles,) so that each fibril is free and isolated, but the nervous ramuscles appear to have terminal arches.

5th. That the papillæ are enveloped in a particular membrane, and in a layer formed by the epidermic corneous substance.

6th. That in these papillæ, sanguineous vessels of a much smaller size than the nervous filaments penetrate.

7th. That the different layers of epidermic corneous substances constitute a separate apparatus, composed of an organ of secretion and of a substance, at first placed in fibres perpendicular to the derma, but which afterwards becomes horizontal. These fibres or small stems result from the superposition of small scales; and the epidermis, properly so called, is but a part of these stems situated at the greatest distance from the derma.

8th. That in this epidermic substance, formed of scaly stems, are found absorbing canals and nervous papillæ.

9th. Finally, independently of the apparatus for the secretion of the corneous epidermic substance, there exists in the skin, towards the external face of the derma, a small apparatus for the secretion of colouring matter.—*Gaz. Méd. Feb. 8th, 1834.*

10. *Passage of Gases through Liquids.*—M. DUTROCHET has communicated to the Academy of Sciences a memoir entitled “On the Endosmose of Gases through Water.” In a former memoir, in which the author attempted to explain the respiration of aquatic insects, M. Dutrochet observed that a mutual change took place between the gases enclosed in a cavity immersed in water and the external air, the final result of which, was the transformation of the gas contained in the cavity into atmospheric air.

M. Dutrochet saw in this passage of gases in opposite directions through this liquid, a phenomenon analogous to that of the passage of liquids through a solid and permeable diaphragm—a phenomenon similar to that of endosmose. He had observed that the gases in this reciprocal exchange passed in different quantities, so that according to the nature of the mixture first placed in the bell-glass, he could have at the end of the experiment an increase or diminution of volume; he also saw that the results varied as the experiment was made

in still or running water. The object of his new work is the continuation of the researches on this subject. The first apparatus consisted of two glass tubes united at the bottom by a third, bent like a horse-shoe. This last tube was filled with water, and the two other tubes contained the same up to a certain height. The top of the two latter was occupied on one side by oxygen gas, and on the other by carbonic gas. After some time the gas passed through the water which filled the bottom of the apparatus, so that much carbonic acid was found on the side of the oxygen, and a little oxygen on the side of the carbonic acid. Besides, there was a loss of a portion of the gases, which was dissolved in the water, and by far the most considerable part of the loss was of the carbonic acid. This experiment, says M. Dutochet, had not the degree of precision necessary; however it served to show me that when two gases separated by a liquid mix, notwithstanding this obstacle, they have commenced to be dissolved in the liquid, and it is only when the latter is saturated, that the dry mixture commences. This experiment, and others in which the two gases were oxygen and azote, show that it is always the most soluble gas in water which passes in the largest quantity through this liquid towards the less soluble gas.

By prolonging sufficiently the experiment with the same gases in an apparatus a little different from the one we have described, M. Dutochet convinced himself that the change continued through the liquid until the proportions of the two mixed gases were the same in both receptacles, but there was a result he had not anticipated, which was that in the two tubes the mixture was in exact proportions to constitute atmospheric air. There had been no loss of azote but only a portion of oxygen, which was in excess, and remained dissolved in the water. The two gases in the passage of inverse directions through the water, are, according to M. Dutochet, in mixture, as are all substances that water dissolves simultaneously.

From this consideration, and others drawn from the phenomena of the mixture of two liquids of equal viscosity, separated by a partition which exercises on them a capillary action, the author is led to establish analogy between the capillary action of solids and the dissolving action of liquids.

The memoir is terminated by observations relative to the influence the state of repose or agitation of the liquids, through which the mixture is made, exercises on the results.

11. *Influence of Gravity, and of a Depending Position on the Circulation of the Blood, in Health and in Disease.*—To appreciate properly the importance of these influences, it is proper that we attend for a few moments to the condition of the circulation in different parts of the body in its most frequent attitudes and postures; viz. the vertical or upright, and the horizontal. As the former is the most frequently repeated and longest continued, it may therefore be reasonably believed to exert a more influential operation on the current of the blood than the other. Let us consider the effect of the upright position of the body, (and this, we need scarcely say, includes the sitting, as well as the standing posture,) and we shall at once perceive that the arterial circulation in the inferior extremities is thereby facilitated, while the venous circulation is proportionally impeded. It is not therefore surprising that as the body advances in years, the operation of gravity which is acting constantly, except during sleep, against the venous current, should on many occasions induce engorgement of the veins of the leg, giving rise to varices, and to obstinate ulcers. The circumstance of these being almost peculiar to the lower limbs, can be explained only on the principle we have stated. The condition of the circulation through the head is the very reverse; the arterial current has to ascend against the gravity of the blood, whereas the venous current downwards is favoured by it. Whenever the upright posture is changed for another, say the horizontal, the circulation is very perceptibly affected; the veins of the face and neck become swollen and livid, the carotids and temporal arteries pulsate with greater force, and head-ache and confusion of thought are often induced. These phenomena are still more rapidly and

more strikingly developed if the head is lower than the rest of the body. From this example we perceive that the veins of the head and neck are nearly passive tubes; their contractile power is very small, no doubt from its being seldom called into play; and hence they become easily distended whenever the current of their blood is not favoured by gravity. The contractile power of the veins of the upper and lower extremities is much greater; but in the case of the latter it is often much weakened by their almost continued state of distention to which they are exposed.

Now the circulation through the other parts of the body also is affected, and that too very materially, by the influence of the gravity of the blood, but in different degrees according to their situations and positions. As a general truth we may assert, that whenever the venous circulation is favoured by the gravity of the blood under ordinary circumstances, *there* will congestions be apt to take place, or to be much increased when they have already taken place, by any change of the accustomed position; and the reason of this is, that such veins have but little contractile power to aid in propelling their contents. To return to the subject of the cephalic circulation, is it not a fact of daily observation, that scarcely any one is able to continue long in a strictly horizontal position? the head must be somewhat raised above the level of the body, else unpleasant feelings come on, which not only prevent sleep, but may induce dangerous symptoms. It is not improbable that the less free return of the venous blood from the head when we lie down, may have something to do in the phenomena of sleep. And is it not, in part at least, this cause which keeps up the desire for sleep beyond the requisite period of repose; so that the longer we remain in bed, the longer still we wish to remain? It is not unfrequent to observe in elderly patients who have been, from whatever cause, long confined to bed, a set of nervous and cerebral symptoms supervene, and these may resist every means of relief which may be devised. The perceptive and intellectual faculties become dull and inactive; a state of torpor and apathy, of greater or less degree in different cases, comes on; the patient is unwilling to be troubled with anything, as the answering of questions, and so forth; and when he does return an answer, perhaps it is confused and rambling. These are alarming symptoms, and if they continue and become aggravated we can have no hope of saving our patient.

On dissection of such cases we usually discover some degree of encephalic congestion, and perhaps a trifling effusion within the ventricles. We deem it not improbable that the true source and origin of most of the mischief are to be sought for in the altered state of the cephalic circulation in consequence of the more frequent and longer continued decubitus or position in the horizontal attitude. As it is with the head, so it is with other parts of the body, when they are kept for a length of time in a depending posture. In the chest the stasis of the blood is always more considerable in those parts of the respiratory organs which are lowest; and it has often been remarked, that pneumonia, especially when it attacks those who have been long bed-ridden, very generally affects the base of the lungs. Perhaps some curious and interesting results might be obtained by endeavouring to ascertain the comparative frequency of pneumonia on the left and on the right side, of engorgements of the liver, and of the spleen, in relation to the ordinary position of the patients during their sleep. It is quite possible that the blood may acquire a tendency to accumulation in particular organs on that side which the person usually assumes while asleep.

In our July number, of last year, there is an interesting memoir of M. Piorry, on what he designated "*pneumonia hypostatica*," or pneumonia arising from a continued state of congestion of certain parts of the lungs, kept up by long confinement in bed. Almost all the cases occurred in old infirm patients, admitted into the La Salpetriere as objects of charity. The mere confinement to bed appeared often to bring on cough and other pectoral symptoms, and these were found to be quite irremediable, if the patients were kept all day in the horizontal position.

Auscultation readily discovered the seat of the pulmonary lesion; the dullness on percussion, and the absence of the respiratory murmur, with the consecutive râles, heard on each side of the spine, showed that it was the posterior part of the lungs which were chiefly affected; and the post-mortem examination confirmed in every case the accuracy of the diagnosis.—[En.]

The injurious effects of a depending position are well illustrated in the case of the female mamma, when not properly supported, especially during lactation; the veins become much enlarged and distended, and not unfrequently severe darting pains are felt through the organ, giving rise to apprehensions of the commencement of serious disease. Then, too, the very common malady of hæmorrhoids is another striking example of the influence of gravity on the circulation of the blood; and the phenomena of many uterine affections also afford testimony to its operation: thus numerous cases of inflammation of the womb are induced by the patients too soon leaving bed, and getting up; the change from the horizontal to the vertical position favours the more easy flow of blood along the uterine arteries, while it retards the returning current in the veins: hence, therefore, we may readily explain the occurrence of inflammation or hæmorrhage under such circumstances. Every obstetrical physician knows that it is of paramount importance to enjoin a reclining posture in all affections of the female internal organs of generation.

Again; it is the agency of mere gravity which induces a varicose state of the spermatic veins in men, constituting the diseases of varicocele and cirsocele, and these diseases are invariably aggravated by all causes which are capable of increasing the force of the gravity of the blood, or of relaxing the coats of the blood-vessels, such as exercise, long standing, heat, &c. The use of a well-made and well-applied suspensory affords by far the most effectual relief. But the phenomena which result from the influence of gravity are still more apparent and striking in the extremities of the body. If the hand has been long hanging by the side, especially when it is warm at the same time, the veins become full and distended, every minute ramification can be traced, and the whole volume of the soft parts is greatly increased, so that even a feeling of unpleasant tension may be induced: by merely raising the hand and arm, and keeping it for some time in that position, all these appearances vanish, and the member resumes its wonted condition. This affords one of the best examples of the influence of mere gravity on sanguineous accumulations; and we can readily believe that the upper extremities would very often exhibit the effects of such accumulations, were it not for the free and frequent movements of them in all directions:—In the case of the lower limbs, the movements are much more limited, and their position is almost always unfavourable, except during sleep, to the return of the venous blood; whether we are walking, standing, or sitting, the blood has to rise from the feet upwards against the force of its gravity. Hence it is that the varicose distentions of the veins of the foot, leg, and thigh are so frequent, and especially whenever there is any superadded cause, which may impede the easy reflux of the circulating fluid—the pressure of the gravid uterus, of an enlarged ovary, &c. is well known to be a common cause of such a malady. When the larger veins of the extremity have been varicose for some time, and especially if the patient neglects the proper means of relief, the capillary veins become gradually distended and engorged—the surrounding cellular substance becomes inflamed, hardened, and ecchymosed, in consequence of blood oozing out occasionally from the over-distended vessels, and being infiltrated into the cellular parenchyma. It is under these circumstances that the skin not unfrequently gives way, and ulcers, most painful and difficult to heal, become formed. Having thus briefly glanced at some of the most illustrative examples of the influence of gravity, as a cause of inconvenience and disease, we shall now direct the attention of our readers, for a few moments, to certain maladies in which the influence of this agent is conspicuously observed.

In severe cephalic neuralgias, the horizontal position is often found to aug-

ment the sufferings of the patient; and the only attitude in which he can find any rest, is with his head well elevated. We do not mean to imply that these cases are of an inflammatory nature, yet it is very evident that they are much aggravated by any sanguineous congestion in the parts affected. In phrenitis, otitis, erysipelas of the face, the higher the head is kept raised, the more relief the patient experiences; and when any local inflammation, as of one ear, exists, we uniformly observe that the symptoms are mitigated by lying on the opposite side. Ophthalmia has often been translated from one eye to the other, by the person continuing to lie on the sound side when the inflammation was abating in the other, and this alternation of the seat of the disease may be repeated several times, if the physician's attention be not directed to the real cause. The spreading of erysipelas on the trunk appears to be not unfrequently influenced by the position of the patient; the tendency to spread is generally in a direction to the most depending parts—those on which the patient is resting; and rarely upwards, or to a part more elevated than the spot from which it has started. We have already alluded to the frequency of pneumonic attacks of the lower and back parts of the lungs, in patients who have been long bed-ridden, from whatever cause; and it is unnecessary to do more than merely again to point to diseases of the rectum, uterus, and male organs of generation, in proof of the influence of position. In the treatment of ulcers of the leg, we are firmly of opinion that repose of the limb, in the horizontal posture, is by far the most important of all therapeutic means; poultices, lotions, and ointments will often all fail, unless this necessary adjunct be attended to at the same time; and even when the patient is not strictly confined, do we not invariably employ what may be called compensating remedies, viz. strips of adhesive plaster, or rollers from the toes up the whole length of the limb? and the effect of these is well known to be, the taking off the pressure of the superincumbent column of blood from the veins of the foot and leg.

M. Gerdy, about a twelvemonth ago, instituted a number of experiments at the Hôpital St. Louis, on the different methods of treating ulcers; different sets of patients were submitted to the different methods, and each method was employed by itself, in order that the results of each might be justly appreciated. Many of the details have been published in the article "Attitude," in the *Nouveau Dictionnaire de Médecine*. We shall mention a few of them.

When the limb on which an ulcer existed was kept upon an ascending inclined plane, it was found that the sore became pale, the suppuration was diminished in quantity, and a crust soon began to be formed upon the surface, and under this the healing went on more or less rapidly. If strips of adhesive plaster were used, at the same time that the elevated inclined position was retained, the cure was still more rapid: it was by combining the elevation with the use of adhesive bandages, and the entire repose of the limb, that cicatrization of the ulcer was most speedily effected. Several cases of severe contusion were treated on the same plan, with very decided success—the contused limbs being retained in an elevated inclined position during the whole period of the treatment; the decrease of the pain, tension, and tumefaction was sometimes truly remarkable.

M. Gerdy is of opinion, that many white swellings of the joints may be very materially benefited by an application of the principles which have directed his treatment of ulcers. He recommends that the affected limb be kept perfectly quiet, and on an inclined plane, so that the foot is considerably more elevated than the thigh. He is not yet provided with the reports of any cases to prove the correctness of his ideas; but in one case of elephantiasis of the leg, treated by elevation of the limb, and compression at the same time, the result was most satisfactory—the subsidence of the enlargement was very striking.—*Med. Chir. Rev. & Archiv. Générales*, Dec. 1833.

12. *Of the Chemical Properties of the Secretions in Health and Disease, and of the existence of Electrical Currents determined in Organized Bodies by the Acidity and Alkalinity of the Membranes.* By M. DONNE.—1. From the whole surface of

the skin is secreted an acid humour. The sweat, however, instead of being, as is generally said, very acid under the arm-pits, and round the genital organs, is, on the contrary, as alkaline in these parts as at the toes.

2. The digestive canal from the mouth to the anus secretes an alkaline mucus, except in the stomach, where the gastric juice is very acid. Thus the saliva and the mucus of the œsophagus, as far as the cardia, are alkaline in a healthy state, and become acid only in consequence of disease. From the pylorus to the end of the intestinal canal, the mucus furnished by the mucous membrane itself is alkaline.

3. Serous and synovial membranes all secrete an alkaline liquor in a normal state, which in certain diseases sometimes becomes acid.

4. The external acid and the internal alkaline membranes of the human body represent the two poles of a pile, the electrical effects of which are appreciable by the galvanometer. Thus, in placing one of the conductors of the instrument in contact with the mucous membrane of the mouth, and the other in contact with the skin, the magnetic needle deviates fifteen, twenty, and even thirty degrees, according to the sensibility of the galvanometer, and its direction indicates that the mucous or alkaline membrane takes negative electricity; and the cutaneous membrane positive electricity.

Independently of these two great surfaces presenting opposite chemical states, there exist other organs, the one class of which may be called acid, and the other alkaline, and which produce the same result; between the stomach, for instance, and the liver of all animals, extremely powerful electrical currents are found.

5. M. Donné has observed electrical phenomena of the same kind in vegetables, of which he gives examples, but electrical currents in vegetables are not produced by the acid or alkaline states of the parts as in animals, because the juice of fruits, at least such as M. Donné examined, is throughout more or less acid. Accordingly, however, to the beautiful experiments of M. Biot, the juices which arrive by the pedicle are modified on some part of the fruit, and it is perhaps to this difference of the chemical composition of the juices of the two extremities that the electrical phenomena are to be attributed.

6. The acid humours of the economy may become alkaline, and *vice versa*.

7. Acidity is usually the result of inflammation, properly speaking, which may be produced by sympathy in an organ situated at a distance from the inflamed point. Thus the saliva becomes very acid in inflammation of the stomach.

8. The acid which is developed in inflammation appears to be most frequently the hydrochloric. The presence of this acid produces coagulation of the albuminous part of the lymph, or of the serosity which abounds in inflamed parts. The false membranes in the serous cavities, the albuginous spots of the eye, the coagulable lymph of wounds, the thickenings of certain organs, and many other morbid productions resulting from inflammation, in which there is found by analysis only albumen, more or less coagulated, are owing to this.

Pus itself is produced by the action of the acid on albuminous lymph. It is a kind of union of the acid with the albumen. If free acid be not found in the liquids effused on the surface of inflamed organs, it is owing to the humours of the body being very alkaline, and containing sufficient potash and soda to neutralize the acid. In the memoir, however, of which this paper is a summary, M. Donné has cited many cases in which *pus* and even the serum effused into the abdomen in consequence of *peritonitis* were found acid. An analogous case was reported to M. Donné by M. Dumas, and another is mentioned by Berzelius in his treatise on chemistry.

9. The changes in the chemical nature of the secretions react on the different systems of the economy, forming an interesting order of lesions and symptoms in connexion with the etiology, the diagnosis, and even the treatment of diseases. These changes according to M. Donné, produce modifications of the electrical currents which exist between the different organs of the economy.—*Ed. Med. & Surg. Journ. and Journ. Hebdom. Feb. 1834.*

13. *Action of Sugar upon Human Blood.*—Professor HEGEWISCH, of Keil, states that a solution of sugar produces the same alteration in the colour of black blood as the saline solutions, namely, changing it to a bright arterial colour.—*Gazette Médicale de Paris*, April 12th, 1834.

PATHOLOGY.

14. *Foreign Body found in the Heart of a Boy.*—The following very curious instance of this is recorded by T. DAVIS, Esq. of Upton upon Severn, in the second volume of the *Transactions of the Provincial Medical and Surgical Association*.

"On Saturday evening, January the 19th, 1833, I was summoned to attend Wm. Mills, aged ten, living at Boughton, two miles from Upton. When I arrived, his parents informed me that their son had shot himself, with a gun made out of the handle of a telescope toasting-fork. To form the breach of the gun, he had driven a plug of wood about three inches in length into the handle of the fork. The touch-hole of the gun was made after the charge of powder had been deposited in the hollow part of the handle. The consequence was, that when the gunpowder exploded, it forced the artificial breach, or piece of stick, from the barrel part of the gun with such violence that it entered the thorax of the boy, on the right side, between the third and fourth ribs, and disappeared. Immediately after the accident, the boy walked home, a distance of about forty yards.

"By the time I saw him, he had lost a considerable quantity of blood, and appeared very faint; when I turned him on his right side, a stream of venous blood issued from the orifice through which the stick entered the thorax. Several hours elapsed before any degree of reaction took place. He complained of no pain.

"For the first ten days or a fortnight after the accident, he appeared to be recovering, and once during that time walked into his garden and back, a distance of about eighty yards; and whilst there he amused himself with his flowers, and even stirred the mould. He always said he was well, and was often cheerful, and even merry. There was no peculiar expression of countenance, excepting that his eyes were rather too bright.

"After the first fortnight he visibly emaciated, and had frequent rigors, which were always followed by faintness. The pulse was very quick. There was no cough nor spitting of blood. The secretions were healthy. He had no pain throughout his illness.

"He died on the 25th of February, five weeks and two days after the occurrence of the accident.

"*Dissection.*—On opening the thorax, a small cicatrix was visible between the cartilages of the third and fourth ribs, on the right side, about half an inch from the sternum.

"The lungs appeared healthy, with the exception of a small tubercle at the right, and at its root, near to the pulmonary artery, a small blue mark in the cellular tissue, corresponding in size with the cicatrix on the parietes of the chest.

"Half an ounce of serum was contained in the pericardium.

"When an incision was made into the heart, so as to expose the right auricle and ventricle, we were astonished to find, lodged in that ventricle, the stick which the boy had used as the breach of the gun, the one end of it pressing against the extreme part of the ventricle, near the apex of the heart, and forcing itself between the *columnæ carneæ* and the internal surface of the heart; the other end resting upon the auriculo-ventricular valve, and tearing part of its delicate structure, and being itself encrusted with a thick coagulum as large as a walnut.

"We searched in vain for any wound, either in the heart itself or in the pericardium, by which the stick could have found its way into the ventricle."

15. *Cases illustrating the Terminations of Ovaritis Puerperalis.*—The epithet puerperal, applied to this affection, is not to be considered as indicating that it occurs only after delivery. In the 4th vol. of the "Clinique des Hôpitaux," is a report of the dissection of a woman, (who never had been pregnant,) in whom the right ovary was found inflamed and much enlarged, from a purulent deposit, of a most fetid character. In another case, occurring under similar circumstances, the pus made its escape by the rectum, and the patient recovered.

In many of its features, ovaritis bears a strong resemblance to the abscess of the iliac fossa, the history of which has been so ably illustrated by Dupuytren, Dance, and others. At present, we shall confine our observations to the mere furnishing of cases, descriptive of the different modes in which ovaritis may terminate.

1. *By Resolution.* A woman, thirty-three years of age, was admitted into the Hôtel-Dieu on the fifteenth day after delivery. The labour had been painful, and the child extracted by turning. The symptoms were œdema of the abdominal parietes and of the inferior extremities, suppression of the lochia, a swelling in the left iliac region, painful on touch; strangury; whitish, creamy deposit in the urine, and sense of weight in the vagina. By active local bleeding, and appropriate constitutional treatment, this woman speedily recovered.

2. *By Suppuration.* This is a very frequent termination. The pus makes its escape either, *a*, by the rectum, as in the following case.

A young woman presented a general emaciation—slight effusion into the cavity of the abdomen, enlargement of the liver, a swelling as large as a hen's egg, in the left iliac region, painful on pressure—amenorrhœa—urine containing a whitish substance, which appeared like pus; well-formed pus mixed with the stools; body and neck of the uterus healthy to the touch, by which it was discovered that the tumour in the groin was connected with the womb and bladder. The patient was generally feverish, and more so towards evening. Numerous leeches were applied to the swelling, and hot fomentations afterwards. The progress of the case is not known, as she left the hospital unexpectedly. It ought, however, to be stated, that she had been delivered of a seven-month child three years before her admission, after a severe, but rapid labour. Three months after this date, she began to experience pains in the hypogastrium and groins, and these had continued with more or less severity ever since. In such cases of purulent diarrhœa, the pus may make its way either into the cœcum, the arches of the colon, or into the rectum. In the following case, it seems to have escaped into the left arch of the colon.

A woman was seized, on the second day after delivery, with all the symptoms of peritonitis; on recovering from which, she had an attack of phlegmasia dolens. While under treatment for this, a painful tumour made its appearance in the left groin. This attack of ovaritis was no sooner over, than she was again seized with peritonitis, in consequence of imprudently walking on a cold stone floor. On the 22d of March, (seven weeks after her admission into the hospital,) the left limb was still œdematous; and on this day was first observed purulent matter mixed with the alvine evacuations. The great relief which the patient almost instantaneously experienced in the inguinal swelling, on the occurrence of this purulent discharge, could leave no doubt but that it proceeded from the ovary, which had very probably become adherent to the sigmoid flexure of the colon. During a space of two months the discharge ceased, and returned several times; and even when the patient left the hospital, on the 23d of June following, there still remained a degree of engorgement in the left groin, and slight œdema of the limb.

b. The pus may find an exit by the bladder or vagina. MM. Husson and Dance found that this had taken place in a young girl who died of the disease.

c. It may follow the course of the round ligament, and escape at the inguinal or crural apertures. Dupuytren has seen numerous cases of such a termination. Under these circumstances, the tumour may be mistaken for an aneurism,

as it frequently pulsates, from being in close proximity to the iliac artery. In opening abscesses at this point it is necessary to use considerable caution, as instances have been known where the artery has been inadvertently wounded.

d. It may pass into the abdominal cavity, and either become encysted, or induce fatal peritonitis: and, e, lastly, it may be discharged at some point of the hypogastric or iliac regions, (besides the inguinal aperture,) in consequence of the ovary becoming adherent to the abdominal parietes, and the matter gradually working its way out. This termination is illustrated by the following case.

A woman, twenty-four years of age, was delivered of her sixth child on the 17th Nov. The labour was rather painful and difficult. Imprudent exposure to cold was quickly succeeded by an attack of fever, by suppression of the lochia, and a tumefaction of the right groin. When received into the hospital, the tumour was of the size of an egg, and the limb was œdematous.

In spite of repeated leechings, &c. the suppurative process commenced, and, by the end of January, several fistulous openings through the abdominal walls had taken place; and from these a copious discharge of pus flowed out. The patient gradually regained her health, and left the hospital, quite cured, a few weeks afterwards.

In the 4th vol. of the *Bibliothèque Médicale* is narrated in the case of a lady, in whom two iliac abscesses, supervening upon an attack of entero-peritonitis, opened, the one into the sigmoid flexure of the colon, the other into the cœcum—and this last also projected outwardly. An incision was unfortunately made into it, and a stercoral fistula was the consequence.

3. *By Ramollissement.* The ovary becomes tumefied, infiltrated with a seropurulent fluid, and either friable and easily lacerated, or extremely soft and yielding in texture. Dr. Montault saw an example of this degeneration in a young girl, who died of puerperal peritonitis. The labour had been quite natural and easy, but she had suffered much from mental anxiety, and had been exposed to cold, when she was brought to the hospital after delivery.

4. *By Enlargement and Induration.* A young woman was seized with metro-peritonitis, five days after her discharge from the *Maternité*, where she had been safely delivered. She died on the sixth day of the disease, having, on the day or two preceding her dissolution, exhibited all the symptoms of ataxic fever, (from the absorption of purulent matter into the system.) On dissection, a small quantity of pus was found infiltrated into the superior and lateral portions of the uterus. The right ovary was more enlarged than the left, hardened in texture, and of a yellowish colour; firm pressure forced out only a few drops of pus. This state of induration will often continue for a long period without affecting the general health; although it must be confessed that, not unfrequently, the patient is annoyed with colicky pains, proceeding from the site of the ovary, with dysmenorrhœa and other troublesome symptoms.

When these are exceedingly obstinate, and progressively become more distressing, we may suspect that the enlarged and hardened viscus is degenerating into scirrhus, lardaceous, osseous, melanotic, or hydatidic condition.—*Med. Chir. Rev. & Journ. Hebdom.*

16. *Fatal Case of Effusion of Blood into the Pericardium.* By Dr. CARSON, of Liverpool.—Mr. W., a gentleman about fifty-two years of age, of a tall and robust form, clear complexion, subject occasionally to dyspeptic affections; though of very regular and temperate habits; of an active disposition, though his occupation was sedentary and confining; had been for twelve months affected with considerable anxiety of mind, in consequence of the doubtful issue of some building speculations. Towards the end of Lent, which he had rigidly observed according to the injunctions of the Catholic Church, on the 11th of March, a day exempted from the prohibitions respecting diet, he had eaten freely of beef-steaks with onion sauce. He was at that meal sparing as usual in the use of wine. On the evening of the following day, he was engaged in a fatiguing and rather anxious way with the business of a club, of which he was treasurer.

On his return from the club, about eleven o'clock at night, in company with two of his friends, when he had nearly reached his own house, he was seized with faintness and debility to such a degree, that without the assistance of the friends who accompanied him he would not have been able to have kept his feet. Soon after his arrival at his house, he was visited by Mr. Bromilow, his medical attendant. He described himself as faint and exhausted; complained of an obtuse, heavy pain at the precordia, and was affected with flatulent eructations. His respiration was free, his pulse 70, and regular, though weak. He had no affection of the head, nor pain any where, excepting as described in the chest. His bowels had been opened that day. Mr. Bromilow ordered an antispasmodic draught; and left him with directions to take something warm, and go to bed. He took the draught, and a weak glass of brandy and water. At three o'clock he sent for Mr. B. again, and, as the pain in the chest was not abated, he expressed a wish to be bled, which Mr. B. agreed to, more with the hope of satisfying his mind than from any great necessity for that measure being indicated by the symptoms. He lost a pint of blood. An opiate was then administered. At this visit Mr. B. examined the chest more minutely. He applied his ear to the different regions of the naked chest, but perceiving no unusual sound or vibrations, concluded that the heart, lungs, and large vessels were in a sound state. At five o'clock. A. M. I visited him. He felt cold, perspired gently, and chiefly complained of a pain in the chest, which he described as wearisome and oppressive. It was not increased by taking a full inspiration. He had vomited a little in the course of the night, and had discharged some of the onion sauce he had taken the day preceding the attack. He was much troubled with flatulency, and belched frequently, but was not relieved by it so far as regarded the pain in the chest. His pulse was regular; the heat of the body natural; and respiration good. He had had no sleep.

From the information given by Mr. Bromilow, connected with my own observation, I considered that nothing could be indicated by the symptoms beyond an affection of the stomach, which is known to exhibit itself in such anomalous forms. He took four grains of calomel, and two of opium. We visited him again at half after eleven o'clock. He had had little sleep. The symptoms remained the same. He was ordered an aperient mixture, and we proposed to visit him again at seven o'clock. At this visit, I replied to the anxious inquiries of the family—that we did not see any cause for alarm; that the complaint seemed to arise from indigestion; and that I had no doubt he would recover. At three o'clock in the afternoon he sent for Mr. Bromilow, as the pain still continued unabated, and wished to know if he might have any thing to rub the part with. The bowels had not been opened, and he had had little or no sleep. A short time before seven o'clock, the hour at which we had proposed to visit him, and at which I was prevented from attendance by an urgent call to a distant part of the country, Mr. W. was seized with what the family conceived to be a fit; and a short time after the arrival of Mr. Bromilow, expired. In consequence of my unavoidable absence, other physicians were called in, and two arrived, but not until after the death of the patient. I applied for permission to open the body, which was granted. The body was examined twenty-four hours after death, by Mr. Bromilow, in my presence, and in that of my son, Dr. Carson, Jr. The following were the appearances on dissection. Upon opening the chest, the lungs on both side were perfectly sound and collapsed. But, notwithstanding the collapse, the chest was filled more than it usually is when the lungs are sound. This indicated the existence of some foreign substance, or morbid enlargement of some of the organs. The pericardium was found accordingly to be immensely distended by some fluid, which, when this bag was opened, was found to be blood, partly liquid and partly coagulated: the quantity was not less than three pints. It was purely blood, without the admixture of any fluid indicating inflammatory action. The external surface of the heart, and internal surface of the pericardium were examined carefully, but no ruptured vessels, from which the blood might have flowed were discovera-

ble on either of these surfaces. The heart itself was perfectly sound, the valves were in good condition, and no disease existed in any of the large vessels. The lungs were free from adhesions, and were every where sound. The other viscera were in a sound state. A great deal of care and time were expended in trying to discover the source from which the blood had flowed into the pericardium, but in vain: a slight ecchymosis was observed about the root of the pulmonary artery. Dr. Baillie, in his *Morbid Anatomy*, says, "Cases have occurred, though very rarely, in which a large quantity of blood has been accumulated in the cavity of the pericardium, but where no rupture could be discovered after the most diligent search, either in the heart itself, or in any of its vessels. This appears very wonderful, and not at all what any person would expect *à priori*. Two conjectures have occurred to me, to explain this phenomenon: 1st, that the blood-vessels on the surface of the heart have lost their compactness of tissue, so that the blood may have escaped by transudation. The other is, that the blood may have been poured out by the extremities of the small vessels opening on the surface of that part chiefly of the pericardium forming the immediate cover of the heart, from their orifices having been to a very uncommon degree relaxed."

There is a case related by Dr. Alston, in the 6th volume of the *Edinburgh Medical Essays*, in which the disease of the chest was of long standing. Three pints of blood, which was partly coagulated and partly mixed with lymph, were found in the pericardium. No ruptured vessel was discovered either on the outer surface of the heart, or the inner surface of the pericardium. Upon pressing the heart, a bloody serum oozed out of a great many orifices on its surface, and principally near its base. No disease was discovered in the interior of the heart or large vessels. Dr. Baillie refers to two cases of extravasation of blood into the cavity of the pericardium, in which the source of the hæmorrhage could not, after the most careful examination, be discovered. In both these, functional disease of the heart had been observed for some time previous to the death of the patient. Vide *Medical Observer*, vol. 10, p. 330. *Memoirs of Medical Society*, vol. 1, p. 238.

Various opinions have been advanced respecting the sources from which, in the above cases, the blood was derived. One of the suppositions made by Dr. Baillie appears to me to approach the nearest to the truth, which is that the blood had oozed out of the small vessels on the internal surface of the pericardium immediately covering the heart. It is probable, I think, that the oozing, particularly in the case now narrated, arose from the condition of the blood, and the relaxed state of the fibres. It would appear that the disease was general, and that the shivering, faintness, and depression of spirits were not the effects of the flow of blood into the pericardium, but that this last was, like the affections stated, the effect or symptom of the general disease—that in fact there existed a morbid state of the whole system, similar to that which takes place in purpura, in some kinds of epistaxis, hæmatemesis, and bleeding from the bowels in typhus fever. The pain in the chest was in the first place occasioned by the admission of blood into a cavity not accustomed to the stimulus of that fluid. There is no reason to suppose that the action of the heart would be mechanically affected until the quantity of the blood was pretty considerable; for the blood would readily follow the dilatation of the pericardium occasioned by the elasticity of the lungs when the chambers of the heart had finished their contractions. No sound was perceived on carefully examining the chest. Indeed no sound could be excited, as no fluid was poured from one vessel into another. For as the auricles expand as the ventricles contract, the change of place in the constituents of the fluid in the pericardium would be inconsiderable, and made with quietness.

There does not appear to be any symptom in this case that would have warranted the medical attendants in giving an unfavourable prognosis. As a matter of prudence, a less favourable one might have been made, but the same

prudence would not permit the expression of a favourable prognosis in any case whatever.—*Liverpool Medical Journal, No. 1.*

17. *Extensive Mesenteric Disease—Great Heat of the Whole Body the Chief Symptom.*—Giovanni L. æt. 36, a countryman, was admitted into the hospital at Padua in February, 1830. His only complaint was a burning heat over every part of his body; and this was so distressing, that, although the weather was exceedingly cold, he lay all night without any coverings. Two bleedings from the arm, and cooling purgatives, relieved him so much that he was able to return home. In the month of May he returned, labouring under the same distress, and was again made well by a similar treatment. At this time, however, some symptoms of a hypochondriacal affection were first observed.

A fortnight after his second dismissal he came back, in consequence of a mild attack of continued fever, accompanied with that feeling of burning heat which had so much distressed him before. A variety of remedies were tried, but with few good effects, the fever continuing in spite of them, and the patient gradually losing strength and flesh. The pulse being firm and hard, he was bled from the arm, and twelve leeches were applied round the anus. Being considerably relieved by this treatment, he was induced to leave the hospital. He was not, however, long absent, and on his return his condition was decidedly worse. The pyrexial symptoms were much aggravated, but he no longer complained of the burning heat; his emaciation was much greater.

Repeated examinations of all the great cavities of the body were made by more than one experienced physician, for the purpose of ascertaining, if possible, the seat or exciting cause of the prolonged duration of fever; but no very satisfactory conclusions could be arrived at by any one. It was suspected, however, that the “*fons et origo mali*” was probably seated in the lower part of the abdomen.

A diarrhœa came on, and, as it could not be checked, the patient speedily sunk under its effects. He died about the middle of August.

Autopsy.—When the abdominal cavity was laid open, and the small intestines, which were found contracted and quite empty, had been pushed up, an extraordinary mass of indurated disorganized glands presented itself to view. It was fully as large as two fists put together, and, when divided, exhibited a yellow colour, and a structure not unlike to that of genuine scirrhus. So general was the morbid change, that not one healthy gland was discovered in the whole course of the mesentery. It was very naturally a subject of great surprise how such an enormous enlargement as existed at one part could have escaped detection during life, seeing that the abdomen had been repeatedly examined with great care. The only way in which we can explain this, is by supposing that the intestines were always interposed between the mass and the parietes of the abdomen.

Remarks.—The preceding case is very interesting in several points of view; and of these not the least important is that of illustrating what extensive disorganization may be going on in certain viscera, and yet the symptoms, especially the local ones, may be very obscure and unsteady. The leading feature in our patient was the extreme heat and sense of burning which he felt in every part of his body.

It may, therefore, be worthy of the attention of physicians whether this symptom is not more frequently attendant upon mesenteric disease than has been hitherto noticed. We have certainly observed it, more than once, in some of the abdominal affections of children.—*Med. Chir. Rev. and Annali Univers. di Med.*

18. *Case of Paraplegia—Suppression of the Urinary and Anal Evacuations during Eleven Years.*—When Dr. MONTESANTO first saw this patient in April, 1831, he had been paraplectic for upwards of eleven years, and was suffering at the time from the sequelæ of a severe attack of pneumonia; so that it was not

expected that he could long survive. The thoracic symptoms, however, gradually disappeared, and he was then in the same paralytic condition in which he had remained since the year 1820. His appetite was vigorous; but the food seemed to meet with some obstruction, probably at the pylorus, for it was regularly rejected by vomiting in about three hours after it had been swallowed. It is stated that at a former part of his illness a stercoraceous vomiting, which had previously recurred at intervals of from forty to fifty days, had ceased altogether for more than two years. No secretion of urine nor evacuation per anum had taken place since the commencement of the disease, in 1820; neither during all these years had there been any trace of activity in the generative organs. Strange that with such a defect and morbid state of the alimentary and urinary organs, the general health of the patient should have continued moderately good. Towards the close of the year 1831 he had a threatening of the return of his thoracic complaints; but they were speedily removed by appropriate treatment. Occasionally, too, when he eat any food which disagreed with his stomach, or took it at improper times, he was seized with alarming symptoms of cramp and ineffectual efforts at vomiting. One of these attacks, which had been brought on by a repast of fried sardinias, nearly proved fatal in the spring of 1832; for fifteen days his life was despaired of; fortunately then a spontaneous vomiting occurred by which he rejected four large masses of solid stercoraceous substance, which seemed to have been impacted in the intestines. Nature having thus relieved herself of an immense accumulation of fecal matter, which had been gradually collecting for a space of nearly three years, the health of the patient was speedily restored to its former condition. It was necessary every now and then to take away a small quantity of blood by venesection, to counteract in some degree the stimulating and plethoric effects of the ardent spirits which the patient was in the habit of drinking.

In the summer of the following year Dr. Montesanto makes the report, "that his patient's health for the last twelvemonth has been on the whole exceedingly good; and that there has been no return of the stercoraceous vomiting during that period."

The paralytic state of the lower half of the body remained unchanged; all sensibility quite gone, but the limbs not wasted, and though motionless at will, were supple and flexible.

The authentic particulars now related have attracted the attention of many of the most distinguished physiologists and surgeons in Europe; the case altogether is one of the most wonderful on record—the mode of existence in this man being allied to the normal condition of life in some of the lower classes of animals.—*Ibid*, August, 1833.

19. *Case of Apparent Death [Life?] which lasted Three Weeks.*—A young man who had recently been cured of a tertian fever, was admitted into the hospital at Paderborn, under the care of Dr. Schmid, for symptoms indicating tubercular phthisis. He gradually became exceedingly emaciated, and at length died.

After all traces of breathing had ceased, a few irregular beats of the pulse were felt, and the eyes opened of themselves. Some small eschars artificially produced, exhibited signs of suppuration on the second, third, and fourth days. On the fifth, one hand was found to have been turned round; and on the sixth and ninth days a partial perspiration bedewed the skin. After this period several pemphigus-like bullæ made their appearance. The limbs remained quite pliant; the lips preserved their red colour until the eighteenth day, and the expression of the features even at this date was that rather of a living than of a dead person. At the end of the third week there was no offensive smell nor any other sign of putrefaction.—*Med. Chir. Rev. and Journ. der Pract. Heilkunde*.

20. *Cyst in the Brain.*—M. VERNON has presented to the Anatomical Society of Paris, a cyst of the size of a large nut, which he discovered in the posterior

part of the right hemisphere of a patient who had died of laryngeal phthisis, and who had never exhibited any symptom of disease of the brain.—*Archives Gén. March, 1834.*

21. *Acute Rheumatism terminating in Suppuration.*—The termination of rheumatism by suppuration is certainly not common, though MM. GUERSENT and DANCE state that they have met with a considerable number of cases of it, the former in children, and the second in women in child-bed; M. Louis has also met with one example of it, an account of which is published in the *Gazette Médicale* for 1831. A still more striking case is related by Dr. Dégardin in the journal just named for April 12th, 1834.

22. *On Cancer of the Stomach.* By WILLIAM STOKES, M. D.—[Extracted from his Lectures on the Theory and Practice of Medicine, delivered at the Medical School, Park Street.] Pathologists are divided as to what is the cause of cancer of the stomach, but the best informed are of opinion that, in those cases of gastric disorganization, which are called cancer or scirrhus, all that can be demonstrated by the knife is referable to the results of chronic inflammation. This is a different proposition from saying, that chronic inflammation *alone* will produce cancer. As yet we know little of cancer; dissection of cancerous organs gives but scanty information; but this seems certain, that, in particular conditions of the economy, an inflammation of the stomach will end in cancerous disease. Here is an excellent preparation of the stomach of a person who died of cancer of that organ. For several years before his death he had a jaundiced look, an emaciated appearance, frequent vomiting, and severe pain towards the termination of the digestive process, a circumstance which denotes disease of the pylorus. He had also hæmatæmesis. You see the inner surface in the vicinity of the pylorus presents ulcerations of the mucous membrane and thickening of the sub-mucous cellular tissue. The pylorus itself does not appear to be at all contracted, but the parts around it are in a state of extraordinary disease. Look at the preparation again, and say what could bitters, or acids, or alkalies, or tonics have effected in a case of such extensive disease. Here is a stomach, in a state of long-continued chronic inflammation, and exhibiting lesions, which some would designate as cancer of that organ. Now, though I do not know the treatment which this patient underwent, I would venture to say, that he took plenty of the usual anti-dyspeptic medicines. Yet in a vast number of cases, when enormous quantities of these remedies are taken daily, the stomach is in as bad a state as that preparation exhibits, and I feel the more strongly convinced of this, because I am aware that many persons die after having gone through the whole routine of anti-dyspeptic practice, and, when they are opened after death, incurable disease of the stomach is discovered. Here is an example of vast cancerous disease of the stomach; here is a very interesting specimen of chronic gastritis, chiefly representing a most remarkable and circumscribed ulcer at the termination of the stomach. Here you see is the ulcer, with raised, thickened, and introverted edges. Now, in all probability this ulceration was exceedingly chronic, for you perceive nature has been at work with it, and has made some attempts at preparation. It is in such a case as this that patients generally refer their pain to a particular part of the stomach: digestion goes on without any pain until the food reaches a certain point, when acute pain is felt, and this continues until it is relieved by vomiting. The occurrence of this symptom, after an attack of acute gastritis, would lead you to suspect the formation of one or more ulcers, and the persistence of this localized pain should induce you to persevere in employing every means in your power calculated to remove the disease. The preparation which I now exhibit is interesting, as it shows the effect of corrosive poison on the stomach. The patient, to whom this stomach belonged, died in consequence of swallowing a quantity of sulphuric acid; here you see the consequences, the mucous membrane is black and disorganized, exhibiting this ragged appearance. In some cases of malignant fever

we have found the stomach presenting somewhat similar appearances; and the same state of the stomach is described by some writers as occurring in cases of intertropical fever. Here is a preparation, which you should inspect, chronic gastritis with a large ulcerated patch in the centre of the stomach. Here is another example of extensive cancerous disease.

A very few words will suffice for the state of the science on the subject of cancer of the stomach. It is very hard, nay, even almost impossible, to draw a line of distinction between the symptoms of cancer of the stomach and chronic gastritis, and I believe it is admitted on all hands that the same causes give rise to both. Long-continued irritation will, in one case, produce cancer of the stomach, in another, chronic gastritis. Again, it is admitted by many, that what is called cancerous ulceration of the stomach has no appreciable difference from ulceration in various other organs; and hence some persons have gone so far as to say that there is no such thing as cancer of the stomach, (separately considered;) and that all the cases adduced of it are nothing more than so many forms of chronic gastritis. In the present state of medicine, we are not, indeed, possessed of any data which would enable us to come to a final determination on this question. It is certainly impossible to determine this point; but if there be any thing peculiar in cancerous matter, similar to tubercular or melanotic matter, there is no reason why, under the influence of inflammation, it should not be developed in the stomach, as well as in any other part of the body. But whatever views we entertain on this subject, we must confess that, in the majority of cases, there is a chronic gastritis, and that the principles of treatment which would alleviate the patient's sufferings and prolong life, *are those which are calculated to prevent the occurrence of gastric inflammation*. The more you approximate the treatment of cancer to that of chronic gastritis, the greater comfort will you afford your patient, and the more will you prolong his existence.

The most celebrated case on record of this affection is that of the Emperor Napoleon. He died with extensive ulceration of the stomach, which, of course, was called "*cancerous*," and there was also distinct traces of disease of the liver, the mucous coat of the intestines, and the lungs. His disease was believed by himself to have originated in the stomach, and to this opinion he adhered, notwithstanding the results of some solemn consultations, at one of which his affection was declared to be an "*obstruction of the liver*," with a "*scorbutic di crasy*." At another it was pronounced to be a "*chronic hepatitis*," and a course of mercury recommended! When we reflect on this, and read in the account by Gaubert, (which you will see in the *Examen des Doctrines Médicales*,) the regimen which was used, and the list of stimulating medicaments employed, you will not wonder at the words of this great man, when he was pressed to take more drugs, to swallow the universal nostrum, mercury, to which he had the greatest aversion. "Your disgusting preparations are good for nothing. Medicine is a collection of blind prescriptions, which destroy the poor, sometimes succeed with the rich, but whose whole results are more injurious than useful to humanity." But he got mercury, notwithstanding, mercury for his "digestive organs;" to "excite the liver;" to "remove its obstruction," and mercury to create bile, and purgatives to remove it; and tonics, and antacids, and stimulants; and he died in torture, and his body was opened, and the stomach was found "*cancerous*."

I should not omit mentioning to you, that in those cases of chronic gastritis, which run on to an incurable stage, the best treatment consists in a careful regulation of diet, in keeping the bowels open by enemata, or the very mildest laxatives, and in avoiding every thing capable of producing excitement. You will also derive advantage from the employment of gentle counter-irritation, and from the internal use of narcotics, which in such cases appear to have a more beneficial effect than any other class of remedies. With the exception of these, I do not know any other kind of medicine you can safely employ? and I believe that, in the majority of cases, you will find that the patients have taken already a great deal too much medicine. Anxious for relief, and urged on by

the hope of obtaining some remedy capable of alleviating their sufferings, they have recourse to every grade of quacks, are persuaded to swallow every kind of drug, and are subjected to every form of harassing and mischievous treatment. The diet which you prescribe for such patients should be sparing but nutritive; give the stomach as little to do as will be consistent with the support of life and strength; and you may take it as a general rule in the treatment of all chronic affections of the digestive tube, whether cancer of the stomach, scirrhus of the pylorus, or structure of the intestines, that there are two great principles of general application, preserving a gently open state of the bowels, and allaying inflammatory excitement.—*Lond. Med. and Surg. Journ. Feb. 8th, 1834.*

23. *On Duodenitis.* By WILLIAM STOKES, M. D.—I shall not dwell on the subject of duodenitis, as I shall revert to its consideration when speaking of jaundice, because inflammation of the duodenum is a common cause of jaundice, perhaps the most common, if we take the whole of its causes together. You are not to suppose that I wish to inculcate the doctrine that jaundice is a necessary complication in duodenitis, but it has been proved, that there is an extraordinary frequent coincidence between both, and that jaundice very often seems independent of any mechanical cause, such as an obstruction of the biliary ducts. So far from this that in some cases, particularly those which are produced by, or accompany, a duodenitis, we have intense universal jaundice at the same time that the bile is flowing freely into the digestive tube.

The researches of the immortal Bichat gave the first hint which directed the attention of practitioners to the circumstance, that, in many cases where jaundice had existed during life, there was no obstruction or disease in the liver or biliary ducts, but that in such cases there was always more or less inflammation in that part of the digestive tube, into which the bile was immediately discharged, and this led ultimately to the discovery of the connexion which exists between inflammation of the duodenum and jaundice. In treating of the sympathies which depend upon continuity of surface, Bichat refers to the connexion which exists between the surfaces of mucous membranes and the ducts which open on them, and endeavours to show, that the natural mode of excitement in all secreting glands is a stimulus applied to the surface on which their ducts open. As examples of this, he instances the effect which food and other substances, applied to the mucous membrane of the mouth, have in stimulating the salivary glands; the effect which stimulants, applied to the conjunctiva or nose, have on the lachrymal gland, and many others. Hence Broussais concludes that, when the mucous surface of the duodenum is thrown into a state of excitement, we may have a consequent affection of the liver, for the duodenum bears the same relation to the liver as the mouth does to the parotid glands. That this is frequently the case, I think, is very probable. It is now established, that the cause of the yellowness in what has been called yellow fever, is disease of the upper part of the digestive tube, in which the duodenum is always involved; and that the fever itself, (the typhus icterodes of the nosologists,) has been found to be greatly connected with inflammation of the stomach and duodenum. During the epidemic of 1827, we had in the Meath Hospital a great many cases, which bore a striking resemblance to the yellow fever of warm countries, and particularly in this, that they were accompanied by intense jaundice, and inflammation of the upper part of the digestive tube. You will see in the works of Rush and Lawrence, two of the best American writers on yellow fever, that, of the numerous bodies they examined, there were scarcely any in which the jaundice was found in connexion with liver disease, but that in all cases there was intense inflammation of the digestive surface.—*Ibid.*

24. *On Inflammation of the Jejunum.* By WILLIAM STOKES, M. D.—We know very little of the symptoms which characterize inflammation of the jejunum; and it is a curious pathological fact, that this portion of the intestinal tube is of all others the least liable to inflammation. In point of fact, we have no means

of ascertaining what are the prominent symptoms of inflammation of the jejunum, because, in almost every case in which jejunitis has been discovered, there has been also extensive disease of the rest of the small intestine. We have cases of simple gastritis; there have been also cases of distinct disease of the duodenum. We may have disease in the lower third of the ilium, unaccompanied by an affection of any other part of the tube. The same thing may occur in the case of the cæcum, colon, or rectum, but it seldom or never occurs so far as the jejunum is concerned.—*Ibid.*

25. *On Inflammation of the Ileum.* By WILLIAM STOKES, M. D.—Inflammation of the ileum is a most important affection, for two reasons; first, in consequence of its extraordinary frequency, and, in the next place, of its insidious latency, the disease generally requiring a considerable degree of tact and experience on the part of the practitioner to make out its diagnosis with certainty. In fever, it is the most frequent of all the forms of intestinal inflammation; and hence Broussais, finding inflammation of the ileum of such constant occurrence in fever, concluded that fever was only symptomatic of intestinal inflammation. Further researches have shown that he was mistaken, and that the inflammation of the digestive tube is, in many cases, secondary; but it is still a circumstance of almost constant occurrence, and in many cases of fever is the cause of death. Now, the portions of the intestinal tube most commonly affected in fever are, the stomach and lower part of the ileum, and the frequent occurrence of this in fever is very remarkable. There are few cases of typhus without it. In some cases of typhus you will, on examination after death, be astonished to find extensive disease of the intestinal canal, which, during life, had not attracted any particular notice, and this you will most commonly find in the lower part of the ileum. So common is it, that Louis says that ileitis is the grand anatomical feature of typhus fever; that is, had he been obliged to pitch on the lesion of some particular organ as giving a character to typhus, he would say that it was ileitis. There are other diseases, too, in which inflammation of the ileum forms the principal complication. In the diseases of children, which go by the names of worm fever, remittent fever, and bilious fever, I believe that ileitis is generally the first affection, and that the fevers are only symptomatic of it. It constantly occurs at some period or other of *tabes mesenterica*; and I believe, that in many cases it precedes the affection of the mesenteric glands. It is exceedingly common in phthisis. In every case of phthisis, where diarrhœa has lasted for some time, the probability is, that there is ulceration in the cæcum, colon, and lower part of the ileum.

Now, what is the nature of this ileitis? This preparation, (*handing one for inspection,*) which I beg of you to hand round, will furnish a very good illustration of the disease. Here is a portion of the intestine exhibiting various distinct ulcerations of different sizes, occupying the situation of the mucous glands. I do not mean to say, that the character of the disease consists in this distinct ulceration; it is an essential disease of the mucous membrane, and of its glands, which exist in great numbers on the surface of the lower third of the ileum, and are called *solitary* and *aggregate*. These glands frequently take on the inflammatory condition, become softened, run into ulceration, and produce extraordinary sympathetic irritation of the whole system. There has been lately a great deal of discussion with respect to the question—Whether disease begins in the glands or in the mucous membrane, and whether we can separate disease of the glands from disease of the mucous membrane. This has been carried to a great extent; and a change has been attempted to be made in the name of the disease, it being entitled *dothin-enteritis* by those who say that the inflammation commences in the glands. But this I think is a mere refinement, and is carrying the thing too far. It is next to impossible for the glands to be affected without involving the mucous membrane, or for the mucous membrane to be affected without an extension of the disease to the glands. We sometimes, however, see the mucous membrane diseased without the glands being

apparently engaged; but I think the glands are never engaged without the co-existence of disease in the mucous membrane. In this preparation you see the mucous membrane is just giving way; and here is an actual slough, where the mucous and submucous tunics have yielded to the inflammation. In the lower portion of the ileum we meet with an infinite variety in the size and number of the ulcerations: in some they are very close and numerous, in others there are only two or three detached ones; in some, the whole circle of the intestine is destroyed, and the ulcer is nearly as broad as the palm of the hand. It is interesting to consider, with respect to the pathology of the respiratory and digestive systems, how it comes, that ulceration of the mucous membrane is so much more common in the digestive apparatus than in the respiratory. For one ulceration of the bronchial mucous membrane from acute disease, you will have one hundred of the gastro-intestinal. For this peculiarity we cannot clearly account; but there seems to be more development in the digestive than in the respiratory system, and that this over-development produces a tendency to disease. This, perhaps, is an approximation to an explanation of the facts; and to this may be added, that the mucous membrane of the intestines is exposed to the influence of a much greater variety of agents. It is difficult to give an accurate idea of the symptoms of ileitis, as we can only arrive at a knowledge of it by negative evidence, or, as the French term it, "*par voie d'exclusion*."

In a case of gastritis and of inflammation in the upper part of the digestive tube, the most prominent symptoms are thirst and vomiting. In this affection, too, there is thirst, but it is by no means so urgent as in the former cases, and there is generally no vomiting. In a case of acute gastritis there is always a desire for cold drinks. In this disease there is also a desire for fluids, but the patient prefers them warm. Here you perceive two symptoms, connected with the predominance of disease in the upper part of the digestive tube, are absent—vomiting and the desire for cold drinks.

Now, you are aware, that, in a case of inflammation of the colon and rectum, the most prominent symptoms are diarrhœa, tenesmus, and the passing of a quantity of morbid secretions. These symptoms, in a case of ileitis, are either wanting, or they are so slight as to excite but very little notice. If then, in a case of intestinal disease, we abstract the characteristic symptoms of disease in the upper and lower part of the digestive tube from the phenomena of the existing disease; if we find that it presents symptoms which do not properly belong to either the stomach, duodenum, colon, or rectum; we conclude that it must depend on a lesion of the remaining part of the canal, and we are, in this way, led to the diagnosis of ileitis. Let us enumerate the symptoms of an ileitis. In the first place, thirst, without a preference for cold drinks; in the next, absence of vomiting; again, in the early period of the disease, there is generally a tympanitic state of the belly, and the patient seldom complains of pain even in fatal cases. This is a point of extreme importance. There is, however, most commonly a degree of tenderness over the ileum, which you will be able to detect by an accurate examination, and this tenderness presents a remarkable difference from the tenderness of gastritis, both in degree and situation. It is very seldom so exquisite as in a case of gastritis, the patient can bear a considerable degree of pressure, and the tenderness, in place of being towards the epigastrium, is situated between the umbilicus and the crest of the ileum on the right side; here pressure excites pain. The tongue in this affection is generally of a dirty-white, pointed, and red along the edges and tip; the pulse is quick and small, and the face is contracted. As to the nature of the discharges from the bowels they are exceedingly various; there has been as yet no diagnosis founded on their appearance, and in some fatal cases they have been observed to retain an almost perfectly healthy appearance throughout. What would the gentlemen, who draw their diagnosis from chamber-pots, say in such cases? I have seen perfectly natural stools in cases, which immediately after have terminated fatally, and where, on examination after death, there was a vast extent of ulceration in the ileum. In addition to the symptoms just recited, the patient most

commonly has *fever*, and this presents itself under various forms, frequently assuming the type of a simple continued fever; hence, in a great many cases, *the patient is supposed to labour under merely simple continued fever, and the existence of extensive inflammation of the ileum is entirely overlooked.* In other instances, there is more or less prostration, which increases with the progress of the disease, and the fever frequently receives the appellation of typhoid. Under these circumstances, the patient often gets bark and wine, every means is taken to support his strength and remove the typhoid condition of the system, the inflammation of the intestine is exasperated by neglect and mal-treatment, the patient dies, and, on dissection, the ileum presents an enormous sheet of ulcerations.

In cases of this kind, where the diagnosis depends as much on negative as on positive circumstances, it is of importance to have a direct sign, by which we may be able to ascertain with some degree of certainty the existence of a suspected enteric inflammation, and I think I have discovered one, which I believe has not been as yet noticed; this is increased pulsation of the abdominal vessels. In many cases of acute inflammation of the brain, the increased pulsation of the carotids has been frequently remarked, and every one sees that, under such circumstances, there is an undue excitement of these vessels, or, in other words, that there is a want of proportion between the action of the carotids and that of the arteries of the extremities. If your finger be attacked by paronychia the same phenomenon is observed, the artery leading to the inflamed finger beats much stronger than the artery of the corresponding one on the opposite side. From these circumstances I was led to conclude that, in cases of acute inflammation of the digestive tube, there would be increased pulsation of the abdominal aorta; and, on following up the investigation, by examining several persons who had distinct and well-marked intestinal inflammation, I found that my conclusions were well-grounded. In such cases, I found not only a remarkable throbbing of the abdominal aorta, but I also discovered that this throbbing was prolonged to the femoral arteries, and that, on the other hand, there was little or no corresponding excitement in the arteries of the upper extremities.

In inflammation of the ileum the patient generally lies on his back, and avoids motion as much as he possibly can, his skin is dry and harsh; he is feverish; he has thirst, but little desire for cold drinks; he scarcely ever vomits; his alvine dejections are sometimes thin and purgative, sometimes figured and natural. But there is one circumstance which is of considerable importance in pointing out the amount of disease, even in cases where patients have considerable diarrhoea, and this is, that the diarrhoea is not sufficient to account for the extraordinary prostration. There must be some cause for the great reduction of vital power besides the mere diarrhoea, and I must state to you that there are few diseases which bring on such rapid prostration as inflammation of this portion of the digestive tube. In the advanced stage of this disease, the patients have cold skin, subsultus tendinum, petechiæ, involuntary discharge of urine and fæces, low delirium, coma, gangrenous ulcerations of the back, sinking of the powers of life, effusions into the head and chest, in fact all the symptoms which characterize the last stage of typhus. Generally speaking, the disease is more or less prolonged, and the patients die of exhaustion, but in some cases the approach of death is more sudden and formidable. Some of the ulcers pass deeply into the substance of the intestine, perforate all its coats in succession, the contents of the intestine escape into the peritoneum, and the patient is carried off by a rapid peritonitis.—*Ibid.*

26. *Inflammation of the Ileum in Children.* By WILLIAM STOKES, M. D.—Inflammation of the ileum is very frequently met with in children, and it is most important that you should be aware of the extreme frequency, as well as the symptoms of this disease, in those little creatures. There is one fact in pathology which seems not to be generally acted on, that there is a class of dis-

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eases which are intra-uterine, and with which a child may be born. There are a great many cases of this kind on record, but still I must confess, there is a great scope for investigation, and that our knowledge on this subject is imperfect. I believe that any one who has the opportunity of dissecting a great number of still-born children, or of those who die immediately after birth, would, by examining the state of the different cavities, and publishing the results of his examinations, earn for himself very great reputation. It is a well-known fact that children may be born with hydrocephalus, with tubercles in the lungs, with acute inflammation of the stomach; nay more, children have been known to be born with chronic gastritis, and with old ulcerations in the ileum and colon. When children happen to be born with gastro-enteric disease, they are puny and weak; the fact of this occurrence is generally overlooked, the case is considered to be one of general debility, and hence most of those children are lost in consequence of their medical attendants being ignorant of the real nature of the disease. It is a very curious fact, too, that where enteric disease occurs in very young children, it is frequently met with without any accompanying fever, and this is a point of great importance. Here is a fact not generally known. A new-born infant has vomiting, swelled belly, contracted features, but at the same time he has cold skin and feeble pulse; he has no distinct symptoms of fever, and a puny and feeble state of constitution appears to be the prominent symptom. He dies, and, on opening the body, you find distinct traces of enteric inflammation. The younger the child is, the less will be the chance of fever occurring as a sign of enteric inflammation. It seldom happens that this takes place after dentition, but before it is very common.

Now, what are the circumstances which would enable us to recognise this disease in children who have passed the period of first dentition? If you find the child vomiting, thirsty, with swelled belly, hot skin, a tendency to diarrhœa, and an erythematous redness about the anus, you may be sure that there is disease of the digestive system; if the child is restless, and you perceive that the symptoms of irritation of the head are coming on, you will be more certain, and in such cases pathology will inform you that the disease is chiefly in the ileum. In the advanced stage the diarrhœa is lessened, but the belly continues tympanitic, the child exhibits traces of long suffering, and the circumstance of the teeth not being developed gives it the appearance of premature old age, which cannot be mistaken by an experienced eye, and is a sign of long-continued and extensive intestinal disease. In some cases, the child gets a common attack of diarrhœa; this is neglected, but after going on for two or three days, symptoms of fever begin to appear. Here we arrive at a practical rule. Where a child has diarrhœa, and after labouring under this for a few days, gets an attack of fever, you may be almost sure that it is a case of enteritis, and that you will be acting wisely in treating it as such. In the opinion of many well-informed practitioners, that form of fever which has been called infantile remittent, is only an example of this disease. In proof of this fact, Dr. Marsh, my friend and predecessor in this school, in his paper on jaundice, makes some excellent remarks on this subject. "There is yet one form of disease of very frequent occurrence, the seat of which is in the stomach and small intestines. That to which I allude is the *infantile remittent fever*, or, as it is vulgarly termed, the *worm fever* of children. Its characteristic symptoms, if closely analyzed, will be found all of them to point to the mucous surface as the original seat of morbid action."—*Dublin Hospital Reports, Vol. III.*

It would be well for medicine, if the valuable information conveyed in Dr. Marsh's paper was more universally diffused. I feel convinced that many children fall victims to mal-practice under circumstances of this kind. A child gets symptoms of diarrhœa, has irregular or bad appetite, and swelled belly, the disease is called worm fever; he gets a dose of calomel and jalap, and perhaps passes some worms; for when we come to speak of worms, we shall find that disease of the mucous surface is intimately connected with worms, and, in the opinion of one practitioner, worms may be the result of enteric inflamma-

tion. Well, some worms are passed; the purgative is again used; the child may not pass any more, or he may pass one or two in the week to encourage the practice. But all the symptoms of intestinal inflammation, the diarrhœa, the tympanitis, the thirst, the fever, are supposed to depend upon the presence of more worms, and these are to be evacuated by purgative medicine, and thus the affair goes on until the child falls into *tabes mesenterica*, or gets sympathetic inflammation of the brain, and dies of hydrocephalus. I regret to add, that in many cases of this kind the head alone is opened; a little fluid is discovered in the ventricles of the brain, the doctor's diagnosis of the head is found to be correct, and all parties are satisfied. In cases of this kind, the early application of leeches to the belly, the regulation of diet, keeping the bowels gently open by enemata and mild counter-irritation, would have saved the patient. This is not mere theory, it is but a statement of facts, supported by the experience of practical men.—*Ibid*, Feb. 15th, 1834.

27. *On Tabes Mesenterica*. By WILLIAM STOKES, M. D.—The term *tabes mesenterica* is employed to designate that species of consumption which depends upon disease of the mesenteric glands. The common idea formerly entertained with respect to this affection, and, I believe still to a great extent, is, that the disease first commenced in the mucous glands, and from these extended to the lymphatic ganglia of the mesentery, which in their turn became enlarged, thickened, and less pervious, so that a sufficient share of nutriment cannot be absorbed, the consequence of which is that the patient dies of atrophy and exhaustion. With such views of the case, the principles of treatment consisted in employing a class of medicines called deobstruent, the operation of which was supposed to be efficacious in removing this obstruction, this deposition in the substance of the mesenteric glands, and the enlargement by which it was accompanied. This was, and this, I am sorry to say, is the idea still entertained by many. What is the actual state of the science with respect to this disease? It is found that the glands are certainly changed in their structure, and that they are manifestly enlarged; but this is only a link in the chain of phenomena, for it has been proved that in the majority of cases the disease is ushered in by enteritis, and that the swelling of the glands is the result of disease, propagated along the course of the lymphatics from the mucous surface of the intestines to the mesenteric ganglia. This preparation, which I shall send round, will give you an idea of the actual state of the disease. Here is one of the glands which has been cut through; it exhibits the cheesy texture commonly observed in this disease, but you can perceive there are a number of lines running towards each of the glands; these are the engorged lymphatics, which you see correspond with ulcers on the mucous surface of the small intestine. That this is the true pathology of the disease will appear from the following circumstances: First, it has been proved that the glands of the mesentery commonly become inflamed, enlarge, and even suppurate, in cases of inflammation of the mucous membrane of the intestinal canal in the adult. A patient gets enteric inflammation and dies; on dissection we find distinct marks of disease in the intestines, and, in addition to this, we find the glands evidently diseased. Here is one fact. In the next place, it has been proved that in a great many cases of *tabes mesenterica*, if you retrace the history of the disease, if you go back to its first and earliest phenomena, you will find that it began with the symptoms of what has been termed remittent fever, or that the patient had enteritis or diarrhœa, which afterwards became chronic, and that then the symptoms of *tabes mesenterica* began to appear. In the third place, you will find that in a vast number of cases, where a fatal termination has occurred, if you pursue your dissection, and slit up the whole of the ileum, you will discover numerous old ulcerations of the mucous membrane, and find that the lymphatics which correspond with these ulcerations are in a state of manifest disease. Lastly, it has been observed, that the best treatment for *tabes mesenterica*, is that which is calculated to remove enteric inflammation, and that the old treatment, founded

on the principle of removing obstruction by the use of alkalies, absorbents, and solvents, is erroneous and false in the majority of cases. So that we have proof of the origin of this disease in intestinal inflammation, drawn from the occurrence of analogous affections in the adult, from the phenomena of the disease in its early stage, from morbid anatomy and from treatment. I think there can be no doubt that in most instances it commences by intestinal inflammation. Of course a predisposition to disease of the glandular system will favour the occurrence. But is there no case in which the disease has commenced in the glands, and where the mucous membrane of the digestive tube is secondarily engaged? My answer to this question is, in a few cases we cannot prove that the disease commenced in the mucous membrane, and there is no reason why the glands of the mesentery should not be liable to primary tuberculous or scrofulous deposition as well as those of any other part of the body; but, in a vast number of instances, the enlargement of the mesenteric glands is secondary, and resembles the inflammation of the inguinal glands which results from chancre on the penis. I would advise you to consult the Commentaries on Pathological Propositions by Broussais. On this subject, also, Dr. Mackintosh's Practice of Physic.

There is one thing more connected with this disease, which is of considerable importance, and to which I shall briefly draw your attention, and this is, that this inflammation of the glands of Peyer and Brunner, this *dothin-enteritis*, as it has been called, is a very common cause of slow convalescence in fever. You will meet with cases of fever which will go on to the 17th or 21st day, and then something like a crisis takes place; you expect that from this time forward the patient will get progressively better, but in the course of a few days you will be surprised to find no amendment, and that he is not gaining strength; you feel his pulse, and find it quick and small, his attendant informs you that he is restless at night, and when you ask him how he feels, he says he has no particular complaint, but that he is very weak, gets no sleep at night, and has no appetite. Under these circumstances you are anxious to find out what his disease is; you inquire into the state of the heart, lungs, and brain; you find no evidence of disease in any of these organs; you run over in your mind the symptoms present, the feverishness, quick pulse, want of appetite, restlessness, and finding some degree of abdominal tenderness and tympanitic swelling, you arrive at the conclusion, that the return of health and strength is impeded and delayed by the existence of a *dothin-enteritis*. The first person who discovered this fact was Dr. Cheyne. "In these cases," says he, "the distress of the patient often bore no proportion to the danger he was in; the former was very little, while the latter was extreme. The disease would proceed without violent symptoms; nay, a patient would seem to be recovering, although without any critical discharge; he would call for full or middle diet, and for days take his food regularly. The only circumstance in his situation which demanded attention was that he regained neither flesh nor strength, and he expressed no desire to leave his bed. Then, his pulse again became quick and his tongue dry; and he would complain of dull pain and uneasiness in his belly, attended with soreness on pressure, and a degree of fulness in the upper part of the abdomen. Then came on a loose state of the bowels and great weakness. Probably at the next visit the patient was lying on his back, with a pale, sunken countenance, and a very quick pulse; his mind without energy. Then his stools, (mucous,) passed from him in bed, and the urine also. Perhaps a hiccup came on; next his breathing became frequent, in which case death was at no great distance."—In all these cases the mucous membrane and glands were found in a state of decided disease.

Now, what was the nature of this disease? It came on as a secondary affection during the course of fever, became more marked and intense, and finally destroyed the patient. I have seen very many cases of this disease. I give you this as a general rule:—when, after the apparent termination of a fever, your patient convalesces very slowly and imperfectly; when you find that he is

becoming weak, that his pulse is quick, his belly tympanitic, his thirst still present, *and all this without evidence of disease in the respiratory, circulating, or nervous system*, you may suspect inflammation of the mucous glands of the digestive tube, which may terminate in deep ulcerations; and you will not be surprised if your patient should be carried off by rapid peritonitis, occasioned by an ulceration of all the coats of the intestine. I have witnessed many instances of the truth of this statement.

It has been objected to the doctrine that infantile remittent fever and *tabes mesenterica* depend on inflammation of the mucous membrane of the digestive tube, because it has been found that purgatives are sometimes useful in the treatment of the disease; and those who bring forward this objection ask, "if purgatives give relief, how can it be intestinal inflammation?" Now, what are the real facts of the case? These cases, which have been relieved by purgatives, are cases in which purgative medicine has been given in the early stage, and has been productive of benefit; or, in other words, where the disease is only just commencing, and where its cause is proved to be the presence of irritating matter in the bowels. A physician is called to a case of this kind; he gives a purgative; a quantity of offending matter is evacuated, and the child gets better. You should act in the very same way, and have recourse to purgatives whenever you have reason to suspect the existence of irritating or indigestible matter in the bowels. You are to employ purgatives on the same principle as every one employs emetics, in cases where corrosive poison has been swallowed; but no one is inclined to think that he will be able to cure the disease by the continued use of emetics. But, unfortunately, persons do not attend to the actual state of the digestive tube; they go on prescribing purgative after purgative, until the irritation, which was originally produced only by indigestible matter, becomes exacerbated, and terminates in ulceration of the intestinal mucous surface, accompanied by all the symptoms of *tabes mesenterica*.—*Ibid.*

28. *Diseases of the Large Intestines.* By WILLIAM STOKES, M. D.—You will see in the various systematic treatises on the practice of physic, separate descriptions of the affections of this portion of the digestive tube, you will find *diarrhœa* in one chapter and *dysentery* in another, and you will observe, that a great deal of ingenuity has been expended in forming nosological differences between these affections. I fear that much of what has been written respecting them is rather calculated to puzzle and mislead than to inform the student. Viewed anatomically there is no essential difference. You may for every practical purpose place them in the same class, and consider them as the result of the same morbid condition of the same part, namely, an inflammation of the lower portion of the digestive tube. Some persons may quarrel with the term inflammation,—call it then irritation if you please, but the truth is, that it is disease of the lower portion of the intestine, the results of which are increased sensibility and altered secretion, and this description, I think, will fairly apply to one as well as the other. If a man has purging with fever and pain it is called *dysentery*, if he has purging without pain, and without any manifest febrile excitement, we call it *diarrhœa*. But, in cases where persons have died, after having laboured under *diarrhœa* for a length of time, we *generally* find, on dissection, lesions of the mucous membrane of the intestinal canal, sufficient to account for death. There are some cases indeed, in which the mucous surface takes on a gleet discharge, similar to that which follows *gonorrhœa*, and under such circumstances you will not be able to discover any distinct anatomical evidence of diseases. These, however, are comparatively rare, and bear little or no proportion to those cases which present distinct traces of organic lesion.—*Ibid. March 1st, 1834.*

29. *On Dysentery.* By WILLIAM STOKES, M. D.—The first principle I have to enforce on this subject—and you may take it as an observation based on the soundest pathology—is this, that *dysentery* is inflammation of the large intestine. In some cases it is complicated with fever, and in others with disease in

the upper portion of the digestive tube; and I believe that those cases, which are termed *epidemic dysentery*, are those in which this disease is combined with typhus fever, or with an extensive affection of the small intestine—where there is ileitis as well as colitis. I shall not take up your time with discussions respecting epidemic dysenteries, or those of warm climates; it will be sufficient for the present to allude to that form of disease which is observed in this country.

I have told you that dysentery is an inflammatory affection of the great intestine, and all the symptoms during life, as well as the phenomena revealed by dissection, tend to confirm this view of the subject. We often have fever because the constitution sympathizes with the inflammation of an important organ; we have excessive pain and irritation of the intestine, in consequence of its muscular fibres being involved in the inflammation; and we have discharges of morbid, purulent and bloody secretion. You will now please to inspect this preparation, and hand it round. See the effects of dysentery—the extensive inflammation, ulceration, and sloughing of the mucous membrane. Here is another preparation; you perceive the whole surface of the colon is covered with coagulable lymph, which, in some cases, forms a chief part of the dejections. Here is a preparation which exhibits extensive sloughing of the mucous membrane; its tissue, you see, is quite abraded and destroyed. Here is a preparation of chronic dysentery, which presents a very curious appearance; the mucous membrane is finely mammilated, as it were, and it is stated on the label, that the process of cicatrization was going on. If you compare it with the others, you will find a remarkable difference. Here is another specimen of dysenteric destruction.

Here, then, is a disease in which we have violent inflammation of the mucous membrane and submucous cellular tissue, and, in severe cases I believe, of all the coats of the great intestine, except the serous. Let us rehearse its symptoms briefly. Fever of an inflammatory or typhoid character, great pain and excessive irritability of the great intestine, morbid discharges of purulent, bloody, and lymph matter, twisting pains called *tormina*, and frequently the absence of fecal matter in the dejections.—*Ibid*.

30. *Destruction of the Central Substance of the Spinal Marrow*.—M. MAISON-NEUVE has communicated to the Anatomical Society of Paris, the interesting, and perhaps unique case of a woman affected, at the age of twenty-six, with a paralysis of motion and sensation of the upper extremities and of motion alone in the lower limbs, coinciding with the destruction of the gray or central substance of the upper portion of the spinal marrow to the extent of eight or nine inches: a species of accidental "*syringo-miélie*," analogous in form to that sometimes met with congenital.—*Archives Gén. Feb.* 1834.

31. *Cartilages not Susceptible of Inflammation*.—A knee-joint affected with white swelling has been exhibited to the Anatomical Society of Paris, a part of the articular surfaces of which was destroyed, but there remained portions of cartilage which had preserved their physiological characters. This case, with many others of the same kind, has induced M. Cruveilhier to believe that these cartilages are not susceptible of becoming inflamed, and that they are mechanically destroyed in consequence of the alterations in the bone.—*Ann. de la Méd. Phys. Feb.* 1834.

32. *Serous Apoplexy*.—Various specimens have been presented to the Anatomical Society of Paris to demonstrate that the serous effusion into the cerebral cavities is not the cause of apoplexy; but that it results from an affection of the encephalic organs, and that it is incorrect to make a species serous apoplexies.—*Ibid*.

33. *Seat and Nature of Gonorrhæal Orchitis*.—The *Journal Hebdomadaire*, for the 17th of May last, contains an interesting memoir on this subject by Dr.

MARC-MOREAU. The author maintains, we believe with justice, that hernia humoralis consists of an acute inflammation of the vasa deferentia, of the epididymis and tunica vaginalis, and that this inflammation rarely extends to the substance of the testicle. The truth of this view he considers to be demonstrated—1st. By anatomy, which teaches us that the testicle enveloped by a dense, elastic, and fibrous membrane, could not acquire three, four, five, six, and ten times its normal size, without being disorganized. 2d. By clinical experience, which has shown the existence of fluctuation, especially at the commencement and termination of the disease. 3d. Finally, by post mortem examinations, in which the testicle, which was supposed diseased, has been found healthy; whilst the epididymis and tunica vaginalis have constantly presented pathological alterations, and that in the cavity of the serous membrane a fluid of variable colour, consistence and qualities have always been found.

SEMEIOLOGY.

34. *Foramen Ovale remaining Open in the Adult.*—That this does not necessarily occasion cyanosis sufficient proof can be adduced. M. RIBES exhibited to the Anatomical Society of Paris the heart of a man sixty years of age, in which the auricles freely communicated without there being any change in the colour of the skin. M. Reignier has also exhibited to the same society a heart, the two auricles of which communicated by a net-work with large meshes; but what was most curious in this heart, was a foramen of the size of a quill, by which the two ventricles communicated, thus offering a double passage for the mixture of the two kinds of blood; and yet even in this last case there had been no cyanosis until towards the close of life.—*Archives Gén. Feb. 1834.*

35. *Aneurism of the Aorta simulating Laryngeal Phthisis.*—A woman, forty-eight years of age, who had been in ill health for ten months, was treated for laryngeal phthisis. She had, in fact, pain in the larynx, cough, at times paroxysms of suffocation, analogous to those of croup, or of œdema of the glottis. The voice was feeble, interrupted, sometimes shrill. An attack of hæmoptysis supervened on the 30th of March, 1831, and three days afterwards the patient unexpectedly died in a state of syncope; the hæmoptysis which had been suspended having recurred. On post mortem examination, an aneurismal tumour of the size of a large turkey's egg, was found upon the concave and posterior face of the arch of the aorta. This tumour communicated with the œsophagus by an opening of six lines. The left bronchus was flattened and almost obliterated by the tumour; the recurrent nerve of the same side was atrophied in consequence of the compression to which it had been subjected, (whence the alteration in the voice;) the stomach and intestinal tube were filled with blood. All the other organs were healthy.—*Ibid.*

36. *Ossification of almost the whole extent of the Aorta and Pulmonary Artery taken for an Aneurism of the Heart.*—The subject of this case was a woman, seventy-three years of age, who had been in ill health for five or six years, and who had had palpitations, oppression, paroxysms of asthma, &c. She died dropsical. In the intervals of the paroxysms the pulsations of the heart were strong, full, but regular. On post mortem examination there was serous effusion in the abdomen and chest; the pulmonary artery was ossified; the ossifications developed between the internal and middle coats of the arteries were exposed in many points, in consequence of the destruction of the internal membrane; they occupied the whole extent of the aorta from the concavity of its arch to the second lumbar vertebra, and pulmonary artery from its origin to its bifurcation. These arteries, which in the dead body are ordinarily found empty, were filled with black, coagulated blood. The heart was neither

dilated nor thickened; the tricuspid valve presented several small points of ossification, as also one of the sigmoid valves of the pulmonary artery.

The patient in this case presented all the symptoms of aneurism of the heart, although this organ was healthy. These symptoms of aneurism were produced; 1st, by the increase in the force and frequency of the contractions of the heart, rendered necessary to compensate for the loss of contractility in the arterial parietes; 2d, by the presence of a greater quantity of blood in the cardiac cavities, as well as in the surrounding organs.—*Ibid.*

37. *Particular Sound of the Heart.*—Professor PUCHELT has described under the name of *heulender ton* a peculiar sound of the heart, which he ascribes to hypertrophy with dilatation of that organ, coinciding with an aneurismal condition of the origin of the aorta without enlargement of its orifice. This sound is analogous to that termed by Laennec *bruit de soufflet sibilant ou musical*, but which he observed only in the arteries, and the cause of which he could not explain, not having had any opportunity of making a post mortem examination. Hope designates this same rhonchus, musical bellows murmur, and considers it as a sign of an alteration of the valves, without however adducing in its support any anatomical proofs.—*Gaz. Méd. March 29th, 1834.*

38. *Softening of the Spinal Marrow simulating Aneurism of the Heart.*—A woman, twenty-nine years of age, very subject to nervous affections, resulting from mental anxiety, died after four days residence in the Hôpital St. Louis, a victim to violent dyspnœa, accompanied with cardiac pain and strong, tumultuous, irregular, and extensive throbbing of the heart. On post mortem examination, there was not found any lesion of the organs of the chest. Finding only some traces of congestion in the brain and nothing unusual in the abdomen, the spinal column was next examined. This from the termination of the cervical portion to the spinal marrow was completely softened; the medullary substance was mixed with liquid and turbid blood; the membranes were congested in the same region, and the arachnoid slightly opaque.—*Archives Gén. Feb. 1834.*

39. *Pulmonary Tubercles simulating an Affection of the Heart.*—When miliary tubercles are sufficiently numerous to occupy a great part of the parenchyma of the lungs, without rendering this tissue impermeable to air, the chest preserves its sonorousness; the expansion of the lungs is heard throughout the chest, and what strikes the observer, is the exaggerated action of the heart and the oppression. In general, it may be said, that many phthisical patients appear at first to be affected with disease of the heart. M. HUGUIER has seen at the Hôpital St. Louis, a woman treated for two years for hypertrophy of the heart, in whom a post mortem examination showed this viscus perfectly sound, and the tissue of both lungs crowded with granular tubercles, the largest of which did not exceed in size a pea.—*Ibid.*

MATERIA MEDICA.

40. *Lotions for the Cure of Porriigo Favosa.*—M. DAUVERGNE employs the following lotions in the treatment of *Dartre crustacée flavescence*, (*Porriigo favosa*, Bateman.) 1st. R. Iodin. ℥ij.; Iodur. potass, ℥vj.; Aq. distill. ℥ij. M. 2d. R. Sulphuret potass, ℥iv.; Aq. distill. Oss. M.

These solutions are mixed in the proportion of a drachm or tea-spoonful of the first, with half an ounce or table-spoonful of the second; the whole in a basin of tepid or cold water, according to the indication.—*Journ. de Pharm. Jan. 1834.*

41. *Properties and Effects of the Digitalis Purpurea.*—The Nos. of the *Archives Générales* for January and February last, contain an interesting memoir by M. JONET, on the *Digitalis purpurea*. From all the facts which this writer has collected, he infers—

1st. That the powder and watery extract of digitalis, (he prefers the latter,) may be administered in doses as high as sixteen or eighteen grains, commencing with one grain, and daily increasing the dose, without in most cases producing marked disturbance of the digestive functions. That the alcoholic extract cannot be depended upon, and that the ethereal extract is the most uncertain preparation. The infusion he considers as the most active preparation, and the dry plant to be preferable to the fresh leaves.

2d. That in a great majority of cases, digitalis employed in powder, aqueous extract, and especially in infusion, exerts an irritating action upon the digestive organs, always evinced by colic, diarrhoea, nausea, and vomiting. That the property of the digitalis in rendering the pulse slower is indisputable, and that the gastro-intestinal irritation does not prevent this result. That the respiration may be affected by the remedy, dyspnoea most frequently disappearing as the pulse diminishes in frequency. That a distinct disorder of the nervous system is rarely observed after the administration of digitalis. That the digitalis really possesses hydrogogue properties; and that the decoction of this plant in the dose of from two to four ounces, applied to the abdomen, is a powerful diuretic, very preferable to the internal administration of other diuretics, because it may be employed in all cases of gastro-intestinal irritation.

3d. That palpitations of the heart, which are most frequently the prelude to a severer affection, ordinarily yield to the use of digitalis. That anasarca and ascites may be relieved by the judicious use of this plant, and that the success attributed to it in mania, hæmoptysis, advanced phthisis, scrofula, and many other diseases is certain.—*Archives Gén. March*, 1834.

42. *Ointment for the Cure of Porrigo.*—The following ointment has been found by M. BIETT more efficacious in the cure of porrigo than any other remedy:—*R.* Iodur. sulph. 24 to 36 grs.; Axung. ʒj.—*Bull. de Therapeutique.*

43. *On Rhatany Root.* By M. SOUBEIRAN.—Rhatany is one of those remedies to which the medical profession are much indebted, and it is considered as one of the best of the astringent class for internal use. It is important, however, to obtain the expected results from it, that it should be used with proper precautions, and with a full knowledge of its powers.

Vogel, Gmelin, Peschier and Tromsdorff, examined this root, and if some points connected with its analysis are not completely elucidated, yet its chemico-medical history has been fully developed. Rhatany contains tannin in three states:—1st. Pure; in which case it is colourless, and possesses all its peculiar properties. 2d. In a state insoluble in water, resulting from the alteration of the tannin by contact with the air; in this state it has lost its solubility and astringency. 3d. In the form of extractive, this is a soluble combination of pure tannin with No. 2, and gives to the fluid preparations of rhatany their characteristic red-brown colour. This root also contains a small proportion of gum, a little fecula, some saccharine matter, and an acid whose properties are not yet fully determined.

It is generally used in decoction or in extract, each of which forms may be modified to meet the exigencies of the case.

Water acts on rhatany root in different manners, according to the temperature at which the preparation is made. The decoction is a fluid of a dark red colour and astringent taste, and which becomes more or less turbid on cooling. The infusion is much less highly coloured. It is of a reddish-yellow; and judging from its appearance alone, its efficacy would be said to be much inferior to that of the decoction, but on tasting the two preparations, another opinion would be formed. Notwithstanding the light colour of the infusion, its astringent

gent taste greatly surpasses that of the decoction, and in fact is the most energetic preparation. When rhatany is placed in tepid water, this is absorbed by it, and dissolves all the soluble tannin, the gum and saccharine matter, but if its action be prolonged, the teguments of the fecula are torn, and the soluble matter enters into combination with the tannin and dissolves it; at the same time, the soluble tannin becomes saturated, as it were, with No. 2, spoken of above, and an additional quantity of this latter is formed by the oxidizing action of the air. The decoction is dark coloured, and at the same time but little charged with the active principle on the one hand, because the effects of tannin are diminished by its union with the insoluble matter and fecula, and on the other because the vegetable fibre becomes saturated with it, and contributes to abstract it from the solution. This solution becomes turbid on cooling, by the precipitation of a part of the insoluble matter, and by the separation of tannate of starch, which is not soluble in water below 122° F.

The *Codex* orders the extract to be prepared by exhausting the root with alcohol at 22°, and evaporating this tincture to get rid of the vehicle. In endeavouring to ascertain why the *Codex* has made choice of alcohol, we have supposed it was with the intention of diminishing the chances of any alteration of the tannin, as the evaporation can be for the most part carried on in close vessels and at a low temperature. But we here have an instance of the inconvenience of adopting the best founded theoretical principles, when their applications have not been confirmed by a special reference to existing circumstances.

I prepared four different extracts, one by decoction in water; one by infusion, another with alcohol at 22°, and the fourth with alcohol at 33°. I repeated this with different roots, and obtained the following general results. Alcohol at 33° and at 22°, furnished the greatest proportion of extract. The decoction gave less, and the infusion a still smaller quantity; but when the medicinal value of these preparations are considered, the results are widely different. The extract by infusion contained 90 per cent. of soluble matter, that by decoction gave 40 per cent. of insoluble remainder. In the alcoholic extract made with the excipient at 33° there was from 60 to 75 per cent. of soluble matter, this was rather less when alcohol at 22° was used.

In the extract by alcohol at 33°, all the soluble matters contained in the root are to be found, with the exception of a small proportion of the gum and fecula; the evaporation being made in a closed vessel, the tannin was unaltered, and hence the extract represented all the pure tannin which the root originally contained. Alcohol at 33° is in fact the vehicle which furnishes the largest proportion of tannin, but it then is mixed with the matters insoluble in water.

That obtained by alcohol at 22° is very analogous to the preceding, except that it contains more of the gum.

Decoction caused a great loss of tannin. Many circumstances combined to occasion this; the fecula which unites with one part, the ligneous fibre which becomes saturated with it, and the prolonged action of air and heat, all tend to diminish the quantity in the preparation. The insoluble matter is here a mixture of two bodies; No. 2, which is soluble in alcohol, and the compound of tannin and fecula, which is not.

The extract by infusion is richest in soluble matter, the water only takes up what is permanently soluble, and hence the extract itself is wholly soluble in that fluid, with the exception of the small portion which has become oxidized during the evaporation.

It results from what has been said, that the extract made from the infusion is to be preferred, as it contains the greatest proportion of the active principle. At the same time, I would observe that the relative quantities of soluble and insoluble matters contained in an extract of rhatany are of course variable, as each root furnishes different proportions, and also that the manner in which the operation is conducted, materially influences the results.—*Journ. of Phil. Coll. of Pharm. and Journal de Pharmacie*, Nov. 1834.

44. *Syrup of Asparagus.* By A. LATOUR and ROZIER. —The syrup of asparagus has justly obtained a high standing, from the marked sedative properties it possesses. But its tendency to fermentation prevents its being kept for any time without its undergoing a great alteration, which develops an unpleasant putrid odour, and deprives it of all its medicinal properties. To obviate this, the Journal of Medical Chemistry of 1830, proposes to dry the shoots, and to make the syrup as it is wanted, from an infusion of the dry plant.

This plan does not attain the desired result, as it is extremely difficult to dry these shoots, on account of their succulent nature, and also because the aromatic principle is destroyed by this process; we have endeavoured to discover some mode, which whilst it would enable us to prepare the syrup at any time, would also preserve the full qualities of the fresh plant. The following has appeared to us to completely fulfil these indications:—

Preparations.—1. The asparagus shoots are to be reduced to a pulp, and the juice separated by means of a strong press. The quantity of juice furnished by the early shoots, is generally equal to two-thirds of their weight; later shoots only afford about half their weight.

The juice after having stood to settle, is decanted and weighed, then heated in a water bath to coagulate the alumine, afterwards filtered and evaporated to the consistence of honey; when a quantity of sugar equal in weight to the juice before concentration, is to be added. This aqueous *saccharole* is to be dried in a stove.

2. To the marc or parenchyma is to be added two-thirds of its weight of alcohol at 30°, and the whole suffered to macerate for three days in a close vessel, then subjected to pressure through a linen cloth, and the same quantity of alcohol again added to the marc, and the mixture suffered to macerate till the next day, when it is to be boiled for five minutes, subjected to pressure as before; and the products of the two operations united together.

This mixture is to be distilled till three-fourths of the alcohol employed has passed over; when it has cooled, the same quantity of sugar as above is to be added, and the *alcoholic saccharole* which results is to be dried.

These preparations are to be kept in well-stopped bottles, and from them a syrup may be extemporaneously prepared at all seasons in the following manner. Equal portions of each are to be taken and dissolved at a moderate heat in half their weight of water. When the syrup has been heated to ebullition, it is to be withdrawn from the fire and strained.

This syrup unites all the conditions required in good syrup of asparagus, and retains in the fullest manner the aromatic taste of the vegetable. The sedative properties of this syrup are much augmented in this preparation, as has been amply tested in practice. But in which of the principles peculiar to this plant does the sedative power reside? Numerous researches on this subject have been made by Mr. Johnson, who attributes it to a resinous body, from which he states that he makes his syrup.

Anxious to verify this fact, and to possess a readily prepared syrup of asparagus, we made the following experiment, Mr. Johnson not having published his method of manipulation:—

Thinking that the resinous substance would be found in the parenchyma of the asparagus after expression, as no trace of it was discoverable in the juice, we treated a certain quantity of this substance previously dried, with double its weight of alcohol at 31°. At the end of three days, the alcohol acquired a beautiful green colour. When boiled it deposited a great quantity of a green substance, part of which adhered to the sides of the vessel, and another floated on the surface in the form of globules. We separated this substance by decantation, and discovered with astonishment that this pretended resinous principle presented all the characters of a fixed oil.

This oil is of a beautiful dark green colour, which, however, is very fugitive; for an alcoholic solution of it, exposed to the rays of the sun, soon lost its peculiar tint, and the oil which remained after the evaporation of the menstruum, was only of a yellowish hue. It has a peculiar and powerful aromatic

odour, but a mawkish taste. It is somewhat viscous; at the temperature of 53° F., its consistence is that of a soft grease or of thick oil, which does not liquify till 75°. Placed in a tube, and cautiously exposed to the flame of a spirit lamp, it first assumes a reddish colour, and is then decomposed, affording the usual products of the oils, and leaving a tolerably voluminous charcoal.

Water has no action on it—ether and the oils dissolve it in all proportions. Alcohol at 31° readily takes it up. Nitric acid dissolves it without apparent decomposition, as does also hydrochloric acid, which appears to heighten the colour. Sulphuric acid dissolves it, acquiring a slight red tinge. By the action of a regulated heat, the colour becomes blood-red, and the solution is thickened. Water precipitates it in a grayish form.

The alkalies dissolve it rapidly, and the acids precipitate it from this combination in white flocculi. All these characters demonstrate to us the existence of a fatty oil extracted by the alcohol. This appears to us to be possessed of important medical properties.

It is certain that the syrup of asparagus, prepared either with the alcoholic, or with the aqueous *saccharole*, has a remarkably sedative property, in retarding the circulation and in acting specially on the heart.

From what has been said, it results that the union of the two preparations enables us to obtain the whole of the sedative principles of this substance. Moreover, pastilles may be made which may render the administration of this remedy more easy. We propose the following formula for them:—

Saccharole of asparagus,	- - - - -	2 parts
Sugar in fine powder,	- - - - -	1 do.
Mucilage of gum Arabic made with orange flower water,	-	Q. S.
Make pastilles of twenty grains.		

These pastilles should be kept in a well-stopped bottle in a dry place, as they are apt to attract moisture.

A jelly may also be made with this saccharole by adding a solution of ichthyocolla to it. This forms an agreeable compound which might be advantageously used as an article of diet.—*Journal de Pharmacie*, Dec. 1833.

PRACTICE OF MEDICINE.

45. *Treatment of Ileitis.* By WM. STOKES, M. D.—Laxatives are to be employed in enteritis, on the same principle that emetics are used in cases where corrosive poison has been taken into the stomach. We are not to expect to be able to cure the disease by the use of laxatives, nor are we to have recourse to them in every case; we employ these remedies where we have decided evidence of the existence of offending matter in the bowels. We may meet with a case in the early stage under such circumstances, that the removal of the irritating matter by judicious purgation may completely relieve the patient, and this, I believe, is the foundation on which the superstruction of the British purgative practice in ileitis and tabes mesenterica was raised. It was concluded, that a laxative treatment, which had on many occasions succeeded in removing the first symptoms of the disease, would necessarily cure it in all stages and cases. This, I need not tell you, is wrong. Whenever you give purgatives or laxatives in enteritis, bear this in mind, that the effect which you have to produce is to be brought about at the least possible risk. If you can unload the bowels with a little castor oil or rhubarb, or some mild neutral salt, it is much better than to have recourse to calomel, or scammony, or colocynth. As a general rule, drastic purgatives must be avoided in inflammation of the mucous membrane of the intestines. The school of Broussais committed an error, on the one hand, by never admitting the use of laxatives, and British practitioners have been wrong, on the other hand, by giving too much purgative medicine. The

error of the latter arose from looking always upon purgatives as antiphlogistics, which they are certainly, so far as they contribute to relieve inflammation by causing an increased secretion from the intestinal mucous surface. But this increase of secretion can be produced only by stimulating the organ to which they are applied; and hence, before they can become general antiphlogistics, they must, of necessity, be local stimulants. Further; if in a case of inflammation of the digestive tube you prescribe a purgative, and it fails in causing an increase of secretion, it will add considerably to the existing inflammation. It is, however, of very great importance that there should be no accumulation of offending matter in the bowels; and hence, when you find a degree of fulness in the belly, and the dejections scanty, you should always give a laxative, and follow it up by the administration of a narcotic. By using enemata, you can do a great deal of good, and this without any injury to the digestive tube; and I think they may be always employed with benefit in disease affecting the ileum. Recollect, gentlemen, what I wish to impress upon you respecting this part of the treatment is, that laxatives are to be employed in ileitis as one of the means of cure; but you are not to expect that a cure by the use of these alone will always be a matter of constant occurrence. It is true, that many cases presenting symptoms of enteritis, have, in the beginning, yielded to laxatives; but it is true also, that horrible mischief has been done by their continued or indiscriminate employment.

A few observations now with respect to bleeding. There is in simple inflammation of the mucous membrane of the intestines this peculiarity—it very seldom happens that it is necessary to use the lancet. The whole class of intestinal inflammations is so generally accompanied, even in the early period, with marked prostration and a typhoid condition of the whole system, that general bleeding is very seldom employed. But when the disease is recent, the constitution vigorous, the patient young, the skin intensely hot, and the pain violent, (a combination of circumstances which is not of very common occurrence,) you may employ the lancet with safety and with great advantage to your patient. But what I wish to impress upon you is this—you must not expect to cut short an attack of enteric inflammation by general bleeding. Over inflammations of mucous membranes in general, but particularly of the intestinal mucous surface, the lancet has comparatively but little direct power; it is in the inflammatory affections of parenchymatous tissues and serous membranes, that we generally observe the most brilliant and decided effects of venesection. Neither can you, as in parenchymatous inflammation, bleed a second and a third time with benefit. In cases of inflammation affecting the mucous membrane of the intestinal canal, you are to look upon venesection as a preparatory step to leeching. Where the pain is violent, the fever high, the attack recent, and the constitution strong, you will do well to bleed; but only bleed once, and then apply leeches in abundance over the suffering organ. There is nothing of more importance, nothing of such decided value, as bleeding by leeches in inflammation of the mucous membrane of the intestinal canal, and here we arrive at a fact, the explanation of which is involved in much obscurity. A patient is attacked with inflammation of the mucous membrane, and glands of the digestive tube, twelve or twenty leeches are applied to the integuments of the abdomen, and their application is followed by extraordinary relief. This is a very curious fact when we consider that between the place where we apply the leeches, and the tissue which is affected, there intervene skin, cellular membrane, superficial fascia, cellular membrane again, deep-seated fascia, muscular substance, cellular membrane again, two layers of peritoneum, and muscular substance enveloped in cellular tissue. Yet, notwithstanding this extraordinary succession of tissues, it is an undeniable fact, that the application of a dozen leeches to the surface of the belly will frequently cut short an intestinal inflammation, or materially diminish its intensity. Here is a fact, the explanation of which is extremely difficult; and I tell you candidly, I cannot explain it. The school of Broussais attempt to explain it as follows. They state that it is a con-

stant law of the economy, that there is a strong sympathy between the internal parts and their respective integuments, but they do not say why this sympathy should exist. We frequently, however, observe facts confirmatory of this law; you are aware that it often happens that, in cases of the deep-seated muscular phlegmon mentioned by Mr. Crampton, in abscess of the liver, and in empyema, we have a swelling of the integuments, showing the existence of a sympathy between the integuments and the internal organs.

In treating a case of inflammation of the small intestine, I think you may generally commence with the application of twelve or eighteen leeches over the ileo-cæcal region. The ordinary result of this application is, that the pain and tympanitis are reduced, and the thirst diminished; but the patient still has fever, and you are to bear in mind that the mere subsidence of pain does not imply the removal of the disease. We may modify the character of an ileitis very considerably by a single application of leeches, but we are not on that account to expect that we shall be able to remove the disease entirely. In general it is necessary to apply them two or three times, lessening the number at each succeeding application, and taking care that they are applied in the proper place, that is, midway between the umbilicus and the crest of the ileum. Many practitioners are afraid of employing leeches in the advanced stage of this affection, in consequence of the great debility, which characterizes the advanced stage of this, as well as inflammation of every other part of the digestive tube. But though I am quite of opinion that the school of Broussais is wrong in using them at any period, still I think they may be employed even where the disease is advanced, *particularly if they have not been used before*, and I have frequently seen leeches applied with advantage as late as the twelfth day. I have employed them myself in the Meath Hospital, as late as the ninth and tenth days, with decided benefit. Many physicians on the continent are in the habit of treating inflammation of the digestive system by the application of leeches to the anus, and this is said to have a very good effect, and the number of leeches required is smaller. In disease of the great intestine accompanied by diarrhœa, tenesmus, and tormina, I think this is an excellent mode, but when the disease is in the upper part of the tube, I prefer applying them to the belly over the situation of the inflamed organ.

Now with respect to internal medicines. In this disease every thing that is administered should be given with the view of removing irritation, and for this purpose I know no better preparation than a combination of ipecacuanha and opium, as in Dover's powder. The exhibition of the compound powder of ipecacuanha is attended with decided advantage. You are all aware of the long-established use of ipecacuanha and opium in diseases of the intestinal canal, and I think there can be no doubt that they possess considerable utility. With this I generally combine some mild mercurial; the best you can employ is the hydrarg. cum cretâ. Give two or three grains of each every second or third hour, as the case may be, and you may continue this for several days. Where there is no diarrhœa, and the bowels have a tendency to be constipated, it will be necessary to order, every second or third day, a mild laxative, a little manna, or rhubarb, or some castor oil; you should insist on the daily use of enemata, and if they answer the purpose sufficiently I would advise you to be sparing of the use of laxatives by the mouth. In addition to these remedies, I am in the habit of giving a considerable quantity of gum Arabic, which appears to have an extraordinary efficacy in disease of the small intestine. I look upon it as peculiarly valuable in the diseases of children. The ordinary mode of prescribing it is to give a certain quantity of gum water. If this is insufficient, you should order half an ounce or an ounce of the gum to be dissolved in a pint or quart of water, which the patient is to use during the day. After the use of the hydrarg. c. cretâ and Dover's powder, this has a decided value in the treatment of ileitis.

In this way, by leeching, mild laxatives, prescribing mercury with chalk, and compound powder of ipecacuanha with gum water, your patient begins to improve. The tenderness of the epigastrium disappears, the tongue begins to

clean, the fever diminishes, the thirst goes off, and appetite returns. This is the favourable termination. When the patient is of a weak and delicate habit, it is of great importance to pay particular attention to supporting the strength, *even from an early period of the disease*. In such a case, after the first week, the physician who neglects the proper means of supporting his patient's strength does wrong, and it has been justly remarked, that a practitioner will be right in supporting the general strength, at the same time he is employing local antiphlogistics. It is in steering clear between these two opposite dangers that the judicious practitioner is seen; he does not allow his patient to die of inanition, while at the same time he takes care to remove local inflammation. I have seen several experienced physicians prescribe leeches to the abdomen on the same day that they ordered the patient to have chicken broth, and even a little wine. There is nothing improper in this; an inexperienced practitioner, who has his eye merely on the local inflammation, is apt to fall into the error of overlooking the constitutional debility, and allowing it to steal upon him. He finds very little difference between the appearance of his patient this day and the next, and thinks the slight increase of debility undeserving of any attention. At last his patient begins to sink visibly, he gets alarmed and has recourse to stimulants, but it is now too late. Besides, there are several articles of diet which support strength, without increasing inflammation, as for instance, chicken broth, sago, arrow-root, strained rice, &c. These do no harm, and they prevent the patient from falling into a dangerous typhoid condition. Let us look at this in another point of view. Suppose you are called to a child who is said to have had an attack of worms, or bilious derangement, or that his bowels were costive, and purgatives were given, that the discharges were found to be bad, and more purgatives were administered; or suppose you are called to a child of a weak scrofulous habit; who has been taking large quantities of purgative medicine, for what has been termed *derangement of the bowels*, and you find the little sufferer with pale, shrunken face, a black circle round his eyes, cold extremities, rapid faltering pulse, great thirst, and evident symptoms of increased cerebral excitement; the little arms and hands are as cold as death, but the belly burning, tympanitic, and very sensible to pressure, and when you compare the radial artery with the femoral, as it turns over the pubis, you will have some conception of the excited condition of the abdominal vessels; and in addition to this train of morbid phenomena, you find there is suppression of urine. Are you to attack these symptoms with antiphlogistic means? No; the first thing you are to do, is to prevent any further mischief, by totally inhibiting every kind of purgative medicine. You are next to consider carefully what the best line of treatment to be pursued is, for here you are under circumstances of difficulty, and have a great many prejudices to contend with. What I find generally to be most successful is this. I begin by taking proper steps to support the strength, ordering the patient to take chicken broth, arrow-root, or jelly; the extremities are to be wrapped up in warm flannel; and if the patient is sinking, and has his mouth and teeth crusted with dark sordes, a little wine, watching its effects. If it produces sleep, if the pulse comes down under its use, and the fever is not increased, it will do a great deal of good, and you can gradually increase the quantity. Always bear in mind, that there is a certain period in all inflammations, in which stimulants prove to be antiphlogistics, a circumstance which has been overlooked by the school of Broussais. So far with respect to constitutional treatment; but what will you do with local disease? The application of blisters is of decided use, nay, I have seen a few leeches very effective. Apply a blister to the abdomen, and dress it with mercurial ointment, at the same time, you may employ frictions with mercurial ointment: you will also swathe the belly with flannel, so as to keep up a comfortable temperature. In this way you will be able to do a great deal of good. You will also prescribe hydrarg. c. cretâ, with Dover's powder; and if the bowels are confined, emollient injections. By steadily pursuing this plan of treatment, you will often rescue from imminent danger a case which would prove

fatal under the purgative plan, and you will add greatly to your own reputation.

There is one form of this disease in which diarrhœa is a prominent symptom, where there is purging from the very commencement. On this form I am anxious that you should have clear ideas. In cases of this kind there is a copious discharge of fluid matter from the bowels. In the majority of cases, you may lay down this law, that where there is a decided irritation of any secreting organ, increased discharges from the surface of that organ give more or less relief. Suppose two cases of hepatitis; in the one we have no secretion of bile, in the other the secretion is copious; the latter is certainly most favourable. Again, suppose two cases of bronchitis; in one there is a copious expectoration, in the other it is extremely scanty; now every medical man knows that the former is more easily managed. The increased secretion of any organ in the early stage is to be looked upon as a relief to the inflammation. The practical inference to be deduced from this is, that we should be cautious in adopting any means of arresting this discharge, as it is one of the modes which nature employs in relieving the irritation of a suffering organ. Well, then, suppose you have a case of enteritis, and that on the first or second day diarrhœa sets in, what does the routine and systematic physician do? He gives chalk mixture and opium with tincture of kino and catechu, and what is the consequence? The belly becomes tympanitic; the pain is increased, and even peritonitis may supervene;—this is one result of the increase of inflammation; or the breathing becomes difficult, and the patient gets bronchitis or pneumonia. Diarrhœa occurring in the early period of this disease is not to be interfered with, except when it gets to such a height as to threaten the patient's life; and where it increases his sufferings by the frequency of the discharges. In the first week or fortnight, when there are only three or four discharges, or even five in the twenty-four hours, I believe it is better not to interfere by prescribing direct astringents; *but in the advanced period, when the powers of life are low, or the discharges very copious*, then the physician comes to the assistance of nature with just reason, and in such cases you should always interfere. The best mode of managing diarrhœa of this kind is to employ small, frequently repeated-doses of Dover's powder, with anodyne injections. And here I may mention briefly, to such of you as have not seen them used, the best way of employing them. As these injections are used on a different principle from the common, the latter being intended to empty the great intestine and be discharged, the former to be retained, we are consequently to make the basis of our anodyne injection in such a manner, that it will not prove stimulant from its bulk, or from any irritating substance it may contain. Mucilage of starch, new milk, or linseed decoction may be used as the basis, and the quantity taken for one injection should never exceed three ounces. To this, for an adult, you add from fifteen to thirty drops of tincture of opium, for it is a curious fact connected with this subject, that opium given by the rectum has frequently been observed to exercise a much more powerful effect on the system than when an equal or even smaller quantity has been taken by the mouth. The rule then is, that when you first make trial of the remedy in this manner, feel your way cautiously, and if you find that your patient bears ten or fifteen drops, you can increase the quantity on repeating the enema. An eminent practitioner of this city thinks the narcotic effect of opium by the rectum much better marked than by the mouth, and I believe this to be true in many instances. I believe the administration of opium in this way requires a good deal of caution. I recollect the case of a man who had been for a considerable length of time in the habit of using laudanum in large quantities, and was, in fact, a regular opium eater. During an attack of illness he got an injection containing sixty drops of laudanum; this produced, in a very short time, symptoms of decided narcotism, from which the patient never recovered; in fact, he died with every appearance of being poisoned by opium. There is another fact with respect to this disease, which I would have you bear in mind, that, under certain circum-

stances, inflammation of the small intestine will produce a remarkable tolerance of opium. This applies not only to the advanced stage of enteritis, but also to many other forms of disease. Some time since I made a series of clinical experiments with the view of ascertaining the power which opium possesses in relieving inflammation, and the result has been, that in many cases where the powers of life are so low that we cannot have recourse to the lancet, or any kind of depletory measures, opium alone furnishes us with a powerful means of subduing inflammatory action. When we come to treat of peritonitis, I shall have occasion to speak of the good effects of very large doses of opium, particularly in that form of the disease which results from intestinal perforation. My first trials of this remedy were in affections of serous membranes, and to this I was led by some interesting clinical experiments made by Dr. Graves. I next tried it in diseases of mucous membranes, where antiphlogistics were inadmissible, and here, as in the former cases, I had many proofs of its great efficacy. I shall state the particulars of a very remarkable case. A young gentleman, a pupil of mine, and a member of the class at Park-street, of an irritable habit, was attacked with intense inflammation of the mucous membrane of the intestines. He had a high degree of fever, and his thirst was so insatiable, that for two days he never ceased calling for drink. His pulse was weak but rapid; his tongue red and pointed; respiration very much hurried; but the stethoscopic signs of disease of the lung were absent. His belly was exceedingly tender on pressure; and he had another remarkable symptom—constant smacking of the lips. The case, as you may perceive, was one of severe gastro-enteritis, and it was treated in the ordinary mode, by leeches, cold water, &c., but the disease showed great obstinacy, and at the end of a month the patient was evidently in a state of imminent danger. At this period a curious revulsion took place: the chest became engaged, and the patient got bronchitis. For this he was blistered, and took the decoct. polygalæ with large doses of carbonate of ammonia, under the use of which he recovered. The bronchitis disappeared, but was almost immediately replaced by symptoms of intense gastro-enteric inflammation, thirst, quick pulse, tympanitis, low delirium, and subsultus tendinum. In the course of two or three days diarrhœa came on, becoming more profuse as it advanced. The first day he had four discharges, the next eight, and thus it went on increasing until there was a constant discharge of thin fluid matter from the anus. The patient was quite run down, and on three different occasions his friends thought him dead. Having made an unsuccessful trial of various stimulants and astringents, I determined to try what might be expected from large doses of opium. The patient was dying, and it was necessary to do something instantly, which would be likely to arrest the diarrhœa. I ordered a grain of opium to be given every hour; on the first day he took twelve grains with apparent benefit, the next day he took six, the same quantity on the third day, and on the fourth the diarrhœa had so much diminished, and the young gentleman was so much better, that I thought it might be safely omitted. From this period my patient recovered rapidly. I would not bring forward this case in proof of the efficacy of opium if there were not many others of a similar kind; and I have no doubt that this was a cure effected by the use of opium in large doses. In the treatment of this disease by opium, there is one simple rule, by observing which you will be able to avoid all difficulties, and at the same time have a criterion to judge of the value of the opiate treatment. If the remedy produces the ordinary narcotic effects of such large doses on the system, *it will not do much good*. You begin, therefore, cautiously; and if, after the first or second dose, you find that decided narcotism is produced, or at least more than you would think the quantity given could have brought on, give it up;—it will be dangerous. But if he bears one, two, or three grains, or if, after having taken six or eight grains in the twenty-four hours, he appears to be improving, you may then persevere in the administration of opium, and it will be attended with decided advantage.—*Lond. Med. & Surg. Journ., Feb. 22d, 1834.*

46. *Treatment of Diarrhœa.* By WM. STOKES, M. D.—Diarrhœa is the frequent passing of stools of a more or less watery consistence, and which may, and generally does occur without fever. This affection may be considered to arise under three different circumstances, but, in point of fact, every form of the disease may be referred to a single cause, as there is no essential difference in the actual nature of the circumstances by which they are produced. A patient, for instance, takes a quantity of indigestible food, this produces irritation in the gastro-intestinal mucous surface, and diarrhœa is the consequence. Another is exposed to cold, or gets wet feet, the mucous membrane of the bowels becomes more or less inflamed, and this terminates in diarrhœa. Again, a patient, labouring under hectic, has profuse perspirations, these go off and are replaced by frequent fluid discharges from the bowels,—here, also, the result is called diarrhœa. All these forms are, however, referable to the same cause,—irritation of the mucous lining of the digestive tube.

A man commits an excess at table, eats something that he cannot digest, and gets diarrhœa. If you happen to be called to such a case at an early period, your course is very plain and easy; there is every chance that the affected organ has received (as yet) no material injury, and it is attempting to relieve itself by increased secretion. The indication here is to get rid of the source of irritation as soon as possible, and this is best done by prescribing a laxative to remove the offending matter, and then following it up with an opiate. The simple rule is to relieve the intestine, and prevent the liability to inflammation. A mild laxative, followed by opiates and demulcents, keeping the patient on a low regimen for a few days, and in a warm temperature; this is sufficient for the management of the first form of diarrhœa. In point of fact, the principal thing, which the practitioner has to do, is to watch his patient, and take care not to permit the inflammatory action to become developed. It is in such cases as these that the expectant medicine is of value. What you are to direct your attention to, is the state of the intestinal surface. If a patient gets an attack of pain, if his belly becomes tender on pressure, if he is more or less feverish, you may be sure there has been some mischief done. If, on the contrary, the diarrhœa yields to the exhibition of a mild laxative and light diet; if the pulse soft and the belly not tender you have no reason to fear. But if the purging becomes more distressing, if the pain is severe, the abdominal tenderness evident, the thirst and restlessness continue unabated, it is a sign that the irritation has produced something more than mere increased secretion, and that actual disease of the mucous tissue is setting in. We have now a true inflammatory diarrhœa, which may be looked upon altogether as an enteritis of that kind, in which there is a copious secretion from the surface of the intestine. You observe this leads us at once to the principles of treatment. Here we have fever, pain, frequent morbid stools, thirst, and abdominal tenderness. Well then, what are you to do? In a case where these symptoms are so severe as to excite alarm, at once begin by applying leeches. Where there is merely evidence of intestinal irritation caused by indigestible food, give a laxative, and follow it up with an opiate; where, in addition to the ordinary symptoms, you have fever, pain and tenderness, never omit the application of leeches. Many a time have I seen cases of this kind, in which chalk mixture and astringents not only failed but even caused additional suffering, speedily and completely relieved by the application of a few leeches. In using leeches, too, we are not, like the practitioners who trust to astringents, playing at the game of double or quits; nor do we stop the purging by exchanging it for something else equally bad, or even worse, for a peritonitis or a bronchitis for instance; *by removing its cause we not only check the diarrhœa, but we obviate any tendency to a metastasis of inflammation to other tissues, and our mode of cure has at once the merit of being successful and safe.*

A patient who has had an attack of diarrhœa should have his belly swathed with flannel;—this should never be neglected. He will also experience a great deal of benefit from the use of the hip bath and occasional opiates. Give also

a combination of rhubarb and Dover's powder, and you will find that it will do him a great deal of good. This is the remedy which Rhæderer and Wægler found to be of extraordinary advantage, in the mucous fever with diarrhœa which ravaged parts of Germany in the last century. Give two or three grains of each every second or third hour; and increase or diminish each of the ingredients according to circumstances, increasing the Dover's powder where the indication is to remove pain and irritation, and increasing the rhubarb where you wish to produce a laxative effect. This combination forms a remedy of decided value in enteric inflammations: it has been much used in such cases by Dr. Cheyne, and I have repeatedly employed it in the Meath Hospital with marked advantage. You are also to bear in mind that though the principle of treatment in this disease is to remove its cause and put a stop to the purging, still you are in no case authorized to give it a sudden check by astringents in the early period. I gave the reasons for this at my last lecture, and showed that it was based upon a general law of the economy. If an organ in a state of inflammation pours out an increased quantity of secretion, *it is the mode in which nature attempts to give relief, and if you suddenly arrest this secretion, the probability is that you will excite more inflammation in that organ, or cause a metastasis in other parts.* This is particularly the case if inflammatory fever exists. You must also attend to your patient's diet. Your object here is to support him on such a diet as will require but little digestive power, and will not produce large collections of fecal matter in the bowels. Jellies, arrow-root, chicken broth, and mild farinaceous food are the only things that can be used with safety, until the intestinal irritation has subsided.

By pursuing this plan of treatment with steadiness and decision, you generally succeed in cutting short the disease. In some cases the diarrhœa will run on to the chronic stage, just like the gleet which follows gonorrhœa; and this is to be looked upon as the apyrexial period, in which antiphlogistic remedies are no longer admissible, and when you may employ stimulants and astringents with effect. The best way to manage this form of the disease, is to make your patient use warm clothing, or even temperature, and mild nutritious diet; to prescribe the vegetable and astringent tonics, the hip-bath, and the occasional use of mild laxatives, followed by an opiate. In this way, after some time, the disease generally goes off, and the patient recovers his strength. But it may happen that this gleety discharge will continue unabated; it is running the patient down, and he wants some decided remedy to check it. Now the remedies which appear to have the greatest power in stopping this discharge, are the metallic astringents, and the turpentine and balsams, combined with some of the preparations of opium. It is a curious and interesting matter to consider how these remedies act. They are a class of medicines which exercise an extraordinary influence over discharges from mucous surfaces, in a way we do not understand, but the effect is to arrest these discharges. In a case of ophthalmia, accompanied by copious secretion from the conjunctiva, or in a case of chronic gonorrhœa, we know there is nothing more beneficial than metallic astringents and balsams; and we are also aware of the great value which turpentine and balsam copaiba possess in checking the increased expectoration of a chronic bronchitis. In diarrhœa, also, they have the same power; they check inordinate secretion, and remove the morbid condition of the mucous membrane on which it depends, by some effect produced on the surface of that membrane, but in what manner this is accomplished we know not. In severe cases of this gleety discharge, one of the most certain remedies we can employ is acetate of lead. You will seldom have occasion to use this or any of the other remedies alluded to, in the case of a healthy person, because the disease will seldom pass into this second or gleety stage, but if it should, and that it is running down the patient, it behoves you to check it as soon as possible, consistent with safety. Give then the acetate of lead in free and repeated doses, and it is singular to mark what quantities of it patients under such circumstances will bear without any bad consequence ensuing. Hitherto many persons have been afraid to em-

ploy it in large quantities, from fear of producing painters' colic; but at present it is known that this disease is to be attributed to the absorption of the carbonate of lead in almost every instance, and that the acetate is comparatively harmless. On this point I can mention one interesting fact, namely, that I have been in the habit of using it constantly, and in considerable doses, for the last six years, and I cannot bring to my recollection one single instance of colic produced by it. One patient in particular, who was under my care, took it in very considerable doses for six weeks, without any apparent injury. The only cases, in which I have seen the acetate of lead act as a poison, were those in *which it had been used as an external application*. Whether it be that this remedy is more pernicious when employed after the endermic mode, or whether, when applied to the skin, it attracts carbonic acid from the air and is converted into a carbonate, I do not know, but of this I am certain, that where bad effects have followed the employment of the acetate of lead, they have been brought on by its external use. I generally use this remedy in the form of pill, prescribing two grains of the acetate of lead and a quarter of a grain of opium, three times a-day. With the same intention you may employ the turpentine and balsams, which have a powerful effect in checking mucous discharges. Dr. Pemberton, in his work on Abdominal Diseases, speaks very highly of the efficacy of balsam copaiba; and I have seen many cases where turpentine has had a great efficacy in arresting chronic diarrhœa. You will see, in the works on materia medica, some other remedies which you can employ with benefit in such cases, but I may mention one which is not generally known,—the alkali of the nux vomica. Strychnine was first used in checking mucous discharges by a German physician, and afterwards by Dr. Graves in this city. The cases, in which it proves most successful, are those in which there is a mere gleet discharge, a copious secretion from the mucous surface without any inflammatory action whatever, or if there be, where it is so low as not to produce the least feverish excitement or pain. Cases of this kind, in which strychnine has been eminently successful, have been published by Dr. Graves. Among others is that of a gentleman, who had sudden calls, so that he often had not time to reach the close-stool. He passed a quantity of thin jelly-like substance, and then experienced a transient relief until another attack came on. This case was cured by the use of strychnine, one-twelfth of a grain, three times a-day, made into pills with crumb of bread or aromatic confection.

I may mention here, that, in treating gleet diarrhœa in this way, one thing should be always borne in mind,—it is always dangerous to check any copious secretion suddenly, and the danger consists in the liability to metastasis or new inflammation. Never forget this. What generally happens is, that the patient's belly begins to swell, and you have ascites rapidly formed. Now, I have never seen a case do well in which this kind of ascites came on after the sudden checking of a diarrhœa, the patients all died. Another consequence is the rapid supervention of pulmonic inflammation, and here the disease is almost as bad as in the bowels. You will ask how this unfavourable termination may be avoided. The best mode is, while you are arresting the discharge from the bowels, to promote a determination to the surface. While you are using opiates, and stimulants, and astringents, employ general warm bathing, or the hip bath, dress the patient in flannel, and use mild diaphoretics every night. You will also do right in blistering the belly occasionally. In this way you will succeed in curing the worst cases of this chronic flux, without exposing your patient to the risk of new inflammation, or translation of disease to other organs.

One of the most common forms of diarrhœa is the purging which occurs in cases of phthisis; a physician will be called to treat this as often as any other, and it is of importance that you should have correct ideas with respect to its pathology and treatment. The ordinary opinion is, that this kind of diarrhœa is one of the results of hectic fever, and many practitioners, in treating the purging of consumptive patients, overlook the actual condition of the intestine, and only take into consideration the state of the whole constitution, of the hectic

state of which, the diarrhœa is looked upon as one of the symptoms. The consequence of this is, that they do not proceed on the same principles in the treatment of this as of other similar affections of the intestinal canal. Now I would impress upon you, that you should always consider the diarrhœa of phthisis as depending in almost every instance on enteric inflammation. There is no fact in medicine better established than this. Persons think it is the hectic which produces the purgation, but I believe the converse of this proposition is often much nearer the truth, and that the constant diarrhœa often produces and keeps up the hectic. If you examine the digestive tube of a patient who has died with symptoms of phthisical diarrhœa, you will commonly find extensive ulcerations in the colon, cæcum, and ileum. In some cases of consumption, where the purging has been very severe, the amount of disease will often be found to be quite extraordinary; I have often seen the whole of the lower part of the tube one sheet of extensive ulceration. I find I have not brought up any specimens of the effects of phthisical diarrhœa from the museum, but will exhibit them at our next meeting. The preparations before us are those which are illustrative of dysentery, but they will convey to you a good idea of the state of the great intestine in the diarrhœa of consumption, for the effects are nearly the same. Observe now, gentlemen, the importance of this fact, and recollect that in treating every case of consumption with diarrhœa you will have constantly to bear in mind this enteric complication. Recollect, also, that one of the best means of stopping it, when all other remedies have failed, is a blister applied over the abdomen. If the purging depended on hectic this would not be the case. I could bring forward several cases in which every thing had been tried without success, when a blister was applied to the belly, and from the time it rose, the patients ceased to be troubled with diarrhœa, and continued so up to the period of death. I do not mean that you should in these cases proceed to attack the enteritis with the same vigour as you would a similar disease in the healthy subject. Generally speaking, I believe this form of enteritis to be incurable, but it is of importance that you should be aware of this enteric complication in phthisis, and when you are called in to treat such a case, you should carefully avoid prescribing any thing calculated to add to the existing irritation.

Before I quit this subject, I wish to make one remark by the way of caution. It not unfrequently happens that a person, labouring under chronic diarrhœa, comes to consult a medical practitioner, and tells him that he has been suffering from this complaint for months, that he has eight or nine discharges by stool in the day, and that he has been under the care of five or six doctors in succession without any benefit. Well, you are determined to have your trial too, and you commence operations by putting him on full doses of acetate of lead. After a week or a fortnight he comes back and tells you he is not a bit the better. You then try turpentine or balsam copaiba—no use. Nitrate of silver—the same result. The man gets tired of you in turn, and perhaps goes to a surgeon to ask his advice. The surgeon examines the rectum carefully, and finds, at a short distance from the anus, an ulcer, which he immediately touches with a strong solution of the nitrate of silver. The ulcer begins to heal, and accordingly as it heals, the irritation of gut ceases, and the diarrhœa goes off. The surgeon is extolled to the skies, and the doctors disgraced for ever in the opinion of the patient. Now this is not an uncommon case. I have seen several instances of it, and I must tell you I was once mistaken in this way myself. These ulcers are situated close to the verge of the anus, they occur chiefly in persons of broken-down constitution, and those who have taken a great deal of mercury. They produce irritation in the colon, tenesmus, griping, frequent discharges by stool, and, most commonly during the straining, a little blood is passed. During the course of last summer, I treated a soldier for this affection, who had been discharged from the East India Company's service, (as was stated in his discharge;) for incurable dysentery. I examined the rectum, and finding some ulcers close to the anus, had them touched with the nitrate of

silver. Under this treatment a rapid amendment took place; and in the space of three weeks the man was discharged quite cured. Now, are you to make this examination in every case? I believe you will act rightly in doing so in every case of chronic diarrhœa in the male, but the examination is absolutely necessary in all cases under the following circumstances: first, when the diarrhœa has been of long standing; secondly, when it has resisted a great variety of treatment; thirdly, when it is combined with tenesmus and a desire of sitting on the night-chair after a stool has been passed, showing irritability of the lower part of the great intestine; and lastly, when the patient's health does not appear to be so much affected as it naturally should be, where there was long-continued disease of a large portion of the great intestine. A patient will come to consult you, who will inform you that he has had eight or ten alvine evacuations every day for the last six months, and yet he eats heartily and looks quite well. Under these circumstances, the cause of the diarrhœa will generally be found to be ulceration of limited extent low down the tube, and capable of being quickly and effectually removed by a strong solution of the nitrate of silver. I shall recapitulate all the circumstances under which an examination is indispensable; where the symptoms have been persistent, have resisted a variety of treatment, are accompanied by tenesmus, and where the injury done to the general health is not in proportion to the duration of the disease. I may mention here, that a medical friend of mine has communicated to me the particulars of another case of this form of diarrhœa in a soldier who was invalidated on this account, and who experienced sudden and permanent relief from the application of nitrate of silver to some ulcerated spots which were discovered near the termination of the rectum.—*Ibid.* March 1st, 1834.

47. *Inhalations of Chlorine in Phthisis.*—M. TOULMOUCHE, of Rheims, has employed the chlorine inhalations in eighty phthisical patients, all of whom had pectoriloquism, and all of whom died. He has seen but one patient with bronchophony cured, and this individual, who died eight months subsequently of another disease, it was found had only dilatation of the bronchi.—*Rev. Méd.* April, 1834.

48. *Tartar Emetic in Frictions as a Means of Producing Resolution.*—M. YVAN announced to the Academy of Medicine at their meeting on the 4th of February last, that he has found an ointment, composed of a drachm of tartar emetic and an ounce of lard, to produce the resolution of indolent and hardened glandular tumours which had resisted the preparations of iodine and the other usual remedies.—*Annales de la Méd. Phys.* February, 1834.

49. *Pruritus.*—DR. CARRON-DU-VILLARDS has employed with advantage lotions of the distilled water of the *Prunus lauro-cerasus* in pruritus of the genital organs of women, which has resisted many other remedies.—*Bull. Gén. de Therap.* Feb. 1834.

50. *Swelled Breasts.*—M. Ranque, of Orleans, some time since, (See Vol. V. p. 214, of this Journal,) recommended the laurel water as a means of suspending the secretion of milk; M. CARRON-DU-VILLARDS, in a memoir in the *Bulletin Général de Therapeutique*, confirms its efficacy, and states that to produce that effect it is sufficient to apply fomentations of equal parts of distilled cherry-laurel water and of the oil of sweet almonds well mixed, to the breasts. Dr. Caffé states, (*Journal Hebdom.*, Vol. II. p. 23,) that he has also had opportunities of appreciating the employment of similar embrocations in cases of mammary swellings with secretion of milk and acute pain, resulting from too rapid weaning, and when salts and other laxatives of various kinds had not afforded any relief. In one case in which there was very acute pain, with swelling of the right breast, the last mentioned physician ordered the application of a piece of fine linen wet with the following liquid:—℞. Aq. distil. prun. laur. ceras. ℥j.; Ether.

sulph. ʒj.; Extr. gum. opii, gr. iij. M. The swelling and pain disappeared, as it were, spontaneously.

51. *Incurable Neuralgia of the Ulnar Nerve.*—Professor VIVIANI, not long after his recovery from an attack of rheumatic sciatica, began to experience slight pricking and formication, preceded by a feeling of an aura in the left forearm, along the line of the ulna, the ulnar side of the carpus, and in the little and ring fingers. These sensations, at first trifling and transitory, became more severe, and fixed in the palmar superficies of the wrist, on the side of the pisiform bone, and extending thence along the palm to the two fingers, but never retrograding. The paroxysms of pains increased in violence—sometimes short, but dreadfully agonizing, each throb shooting along with the rapidity of lightning; at other times they were more protracted. The pulse at the part was never affected, and the general health of the Professor was perfectly good. During the space of three years, every remedy that could be devised was tried, but in vain. He then consulted the celebrated Scarpa, who gave it as his opinion, that the nerve was probably not diseased higher up than the seat of the pain, as he found that firm compression on the carpus, during a paroxysm, very considerably mitigated the pain. He, therefore, recommended the division of the nerve in the forearm.

An incision was made, beginning about an inch above the pisiform bone, and carried upwards, along the side of the tendon of the ulnaris internus; and, on dissecting between this tendon and that of the pulmaris longus, the ulnar artery and its accompanying nerve were easily exposed. About half an inch of the nerve was excised; the little and ring fingers immediately lost all feeling and mobility.

The hopes of the patient and surgeon were soon blighted. During the night after the operation, a paroxysm, quite as severe as any preceding one, was experienced; the pain seemed to commence at the upper angle of the wound, and darted to the extremities of the two fingers. The condition of the patient was, therefore, not at all bettered by the operation; indeed, the fits of suffering became more lengthened and excruciating; on one occasion, the pain lasted unceasingly for thirty-six hours. The two fingers were all this time quite palsied, and generally half bent upon the palm of the hand.

Four years after this date, Professor Viviani wrote to Scarpa, acquainting him that, since the operation had been performed, (1827,) his sufferings had become more and more intense, and that they had defied every attempt, even to relieve them for a time.—*Med. Chirurg. Rev. and Annali Universali di Med.*

52. *Mercurial Inunctions in the Treatment of Paronychia.*—M. SERRE D'ALAIS highly extols the use of mercurial frictions in paronychia. The editor of the *Bulletin Therapeutique*, who has tried this plan of treating the disease, says that he has never seen more marvellous cures than those which he has obtained. In a few hours all pain is calmed, and the progress of the most violent panaris arrested. This has constantly occurred in all the cases the editor has treated, (five,) and he considers this method as the most prompt, certain, and efficacious that we possess in this painful and sometimes serious disease. The finger is rubbed every quarter of an hour with some of the mercurial ointment. After each friction the finger should be enveloped in a linen rag, spread with the ointment. One or two drachms are said to be almost always sufficient for the complete cure.—*Trans. Med. Sept. 1833.*

53. *Soot in Cutaneous Diseases.*—M. BLAND extols the efficacy of a decoction of soot, or a mixture of this substance with lard, in obstinate tetter, different species of tinea, especially tinea favosa, malignant ulcers, &c. This formulæ are as follows:—R. Aq. puræ, ℥j.; Fuligo, manip. ij. Boil for half an hour, express the liquor, and use it in tinea, as a lotion three or four times a day, first removing the crusts by means of poultices. In ulcers, lint is to be wet

with it and applied to the part; and in obstinate fistulæ kept up by caries of the bones, it is to be employed by injection. R. Axung. ℥ij.; Fuligo, q. s.; to be mixed in small portions until the ointment becomes of a dark brown.—*Journ. des Connais. Med. Chirurg. May, 1834.*

54. *On the Use of the Phosphoric Acid in the last Stage of Croup.*—M. AUGUST BOYER, in an interesting memoir in the *Gazette Médicale* for 15th of February last, suggests the employment of the phosphoric acid in the last stages of croup. He states, that the above named acid, when applied to a mucous membrane, produces an acute, but very temporary inflammation, and that it completely dissolves albumen and fibrin. He thinks it preferable to the nitrate of silver and hydrochloric acid, as it possesses equally with these, the property of exciting a new inflammation, which replaces or modifies the first, and it has this advantage, that while the latter remedies increase the density of the false membrane the first dissolves it. He says that he has taken the false membrane from the trachea of an infant who had died of croup, placed it in the phosphoric acid, and that it was completely dissolved.

It is necessary that the phosphoric acid be entirely free from the nitric acid employed in its formation, since, if it is not, it partakes of the inconvenience of the other acids, that of coagulating albumen.

55. *Bigonia Catalpa in Asthma.*—Encouraged by the success which Kæmpfer and Thumber met with in the employment of the *Bigonia catalpa* in different asthmatic affections, some of the medical men in Naples have made trial of the plant, and have obtained results equally satisfactory. By administering in the morning a decoction made of the seeds and part of three or four of the husks of this plant, in twelve ounces of water, boiled down to six, and a similar decoction in the evening, the fit of asthma is much diminished in violence. The following is the result of an analysis of this plant made by Signor Grasso: about ten parts of an oily substance; malic acid partly combined with lime, partly in a free state; and lastly, an uncrystallizable sweet principle.—*Lond. Med. and Surg. Journ. from Bull. delle Sc. Med. Bologne.*

56. *On the Employment of Chloride of Lime and Soda in some Affections of the Mouth, common in Children.*—DR. CONSTANT states that wounds of the mouth, ulceration of the tonsils, &c. assume a favourable appearance after the application of chloride of soda or lime, and speedily heal.

DR. BONNEAU employs in conjunction with the above, a gargle composed of decoction of barley, 3 oz.; conserve of roses, 1 oz.; chloruret of soda, ℥j. to ʒj. M.

M. GUERSENT, in gangrene of the mouth, prescribes a gargle composed of decoction of cinchona, ℥ij.; syrup of orange-peel, ʒj.; chloruret of soda, ʒj. M.

M. ANGELOT, in ulcers of the gums, uses the following wash. Chloruret of lime, 15 to 30 grs.; mucilage of gum Arabic, ʒj.; syrup of orange-peel, ʒss. To be applied to the ulcers by means of some lint.—*Bull. de Therapeutique.*

57. *On the Employment of Chloruret of Lime in Itch.*—DR. HOSPITAL uses generally in the treatment of this disease from ten to twelve ounces of the following ointment:—R. Lac. sulph. ʒiss.; chlorur. calcis, pulv. subtil. ʒij.; axung. ʒvj. M.

58. *On the External Use of Croton Oil.*—This valuable drug was first made known to the profession by Dr. Connell, in 1820, and subsequently its therapeutic effects were investigated by MM. Recamier, Bally, and Majendie; their researches were, however, limited to its internal exhibition, and it was not until 1831 and 1832 that its great value, as a counter-irritant to the skin, was clearly proved by Professor Andral.

External Use. With one or two fingers or, if we choose, with a dossil of

lint, wetted with the oil, we continue rubbing the skin for the space of about ten minutes. This operation should never be entrusted to the patient himself—in two cases at the Hôpital de la Pitié, we observed violent ophthalmia and inflammation of the penis and scrotum induced, no doubt in consequence of the mere inadvertently carrying their fingers to their eyes and genital organs.

The eruption which is brought out by the external use of the croton oil, may be divided into five stages:—1, Rubefaction of the skin—2, Formation of vesicles—3, Conversion of the vesicles into pustules—4, Desiccation of the pustules—5, Desquamation and falling off of the crusts.

These different periods or stages are not uniformly to be observed; they are most conspicuous when the friction has been made with ten or twelve drops of the oil, on a part of the skin where there is much subjacent cellular tissue. The patient at first experiences a tingling warmth, which is quickly followed by a considerable redness, extending an inch or so beyond the sphere of the rubbing. These appearances are generally noticed within seven or eight hours, sometimes in one or two, at other times not for ten or twelve hours; the differences of time required depending, no doubt, on the delicacy of the skin. In from fourteen to twenty-six hours, myriads of small, close-set vesicles make their appearance upon the inflamed skin. Occasionally, a few of the vesicles become greatly magnified, forming true phlyctenæ, filled with a turbid lymph, which speedily change into a purulent matter. In twelve out of thirty-one cases reported by our author, the vesicles passed to desquamation without undergoing the suppurative process.

The usual period at which the serum becomes puriform, is from thirty-six to fifty-four hours after the application of the oil. In one or two days subsequently, the pus begins to exude, and forms grayish crusts over the pustules, and the desquamation is generally over by the eighth or ninth day. If the croton oil is rubbed upon any part which has been recently vesicated, the eruption is, as we might expect, more speedy and abundant.

In six cases it was tried whether the rubbing in of the croton oil, mixed with an equal quantity, or rather more, of that of almond oil, over the arch of the colon, would produce any purgative effects;—an eruption, which reached the second stage, was brought out, but the action of the bowels was not affected. Similar results were obtained when the pure oil, to the amount of twenty drops, was rubbed round the umbilicus. Dr. Rayer states that he has repeatedly induced free action of the bowels by putting two or three drops of the oil upon a surface denuded of its epidermis by a blister. We have not repeated this experiment.

Therapeutic Effects. The diseases in which the external use of this remedy has been employed with most advantage, are chronic rheumatism, arthritic pains, pleurodynia, paralysis, stomatitis, laryngitis, and chronic gastritis.

CASE I.—*Sciatica.* A man, aged 48, was admitted into the Hôpital de la Pitié on the 6th December, 1831. For five months preceding he had suffered severely from pain, beginning in his right hip, and extending down the back of the limb, along the course of the sciatic nerve to the outside of the leg. For two months and a half he was obliged to keep the house, and, upon then attempting to resume his work, the pain returned with all its former intensity. He attributed his complaints to exposure to wet and cold. The only treatment which had been followed before his admission was blistering the limb; but he had derived no benefit. When examined in the hospital, the pain was found to be increased by pressure, and by the heat of the bed; he complained of headache, but in other respects his general health was not amiss. Eight drops of croton oil were ordered to be rubbed in over the origin of the sciatic nerve. This produced considerable itching and redness, but no vesicles; and the pain being not relieved, eighteen drops of the oil were rubbed along the whole course of the affected nerve. Next morning the outer side of the leg was much reddened, and vesicles had formed over the trochanters. On the 11th, ten drops more were rubbed in between the trochanters.—12th. The eruption con-

siderable—some large papulæ had appeared over the fibula. The neuralgic pain almost gone—only the heat and itchiness of the eruption are troublesome. He left the hospital in a few days quite well.

CASE II.—*Sciatica*. A man, aged 50, entered the La Pitié Hospital in December, 1831, suffering from sciatica of six weeks' standing. Twelve drops of croton oil were well rubbed in between the trochanters, along the outside of the thigh, to the lower third of the leg; a copious eruption was induced, and already, upon the second day, the patient felt relieved. In six days more he was considered cured, and left the hospital, quite delighted with the rapidity of his cure.

He had experienced two severe attacks before—once in 1812, when he was treated in the Hôtel-Dieu, by M. Recamier, with the essence of turpentine—at that time he was six weeks in the hospital; and again, two years ago, after exposure to wet and fatigue, he was admitted into the Hôpital de la Charité, under the care of M. Fouquier, who employed blisters and friction, with anodyne balsam. He was cured then in three weeks.

CASE III.—*Sciatica*. A stout, plethoric man, forty-five years of age, had for about a month felt general indisposition, frequently-returning shiverings, and neuralgic pain of the left extremity. He was taken into the La Charité Hospital, and there treated by M. Rayer with repeated venesection, the application of fifty leeches to the hip, and forty more to the back of the thigh. The essence of turpentine was administered inwardly in frequent doses; and besides all this the vapour-bath was used fourteen times. This treatment was continued for three weeks, and as little benefit had been obtained, the patient left the hospital, and a few days subsequently entered the La Pitié. At that time the pain extended from the ischium down the ankle-joint, and it was increased by walking, and by the heat of the bed: the lower part of the leg was annoyed by a feeling of formication. The digestive organs were in good order. Fifteen drops of croton oil were rubbed in over the origin of the sciatic nerve. On the following day, twenty drops more were rubbed over the tract of the affected nerve; a vesicular eruption made its appearance, and the neuralgic pain was already diminished. On the 29th, (third day,) twenty drops were again ordered. 30th. The eruption is very abundant—the vesicles have changed into large pustules. The patient complains only of the itching; the pain is gone. He remained a few days longer in the hospital, until the crusts separated; and, on the 12th day after his admission, he was discharged cured.

A case of chronic rheumatism of the shoulder-joint, supervening on typhus fever, is given, in which general and local bleeding, blisters, &c. had been fruitlessly used for the space of six weeks. The friction with a few drops of croton oil was employed twice; and on the third day the patient could move his arm—although not entirely cured, he was very much relieved when he left the hospital.

CASE IV.—*Anæsthesia, or Paralysis of Feeling*. Pierre Dumas was admitted into the Hôpital de la Pitié on the 9th November, 1831. Seven months before he had an attack of erysipelas of the face, and the inflammation had extended down the left side of the neck. Three weeks after his recovery from this illness, he was suddenly seized with dimness of sight and stunning noises in his ear; these symptoms were not constant, but came and went, returning every second or third day.

This state of things lasted for about two months, during which nothing had been done in the way of medical treatment; and then there supervened a general numbness of the whole left side of the face, and the sight of the left eye became affected at the same time—the left nostril lost the sense of smell, and the left side of the mouth its sense of taste. When he was shaving, he felt as if some foreign body was placed upon his cheek; and, in chewing, the food seemed like earth in his mouth. He complained of a very severe frontal cephalgia—the tongue was loaded, the abdomen soft, the bowels rather relaxed, pulse 90, breathing not affected. He was ordered to be largely bled from the

arm—to use a mustard-bath to the feet at night, and to be put on a light emollient diet.

10th. No relief; half a drop of croton oil in two pills at bed-time.

11th. Twenty liquid stools from the pills; head-ache much better; paralysis not affected. Eight drops of the oil to be rubbed upon the left cheek and side of the neck.

On the following day the skin was well reddened, and a large crop of confluent vesicles had made their appearance; to our great surprise he had already recovered his sight, taste, smell, and feeling. The fifth period of the eruption, or that of desquamation, was not over until the thirteenth day. He did not leave the hospital till the 12th December, having had a threatening of a relapse of the numbness in a slight degree; but this was checked by a bleeding from the foot.

CASE V.—*Angina Laryngea—Aphonia*. An itinerant singer of the streets of Paris, presented, upon his admission, the following symptoms; a frequent, dry, and harsh cough; pain over the larynx, increased by swallowing; breathing sibilant; voice almost entirely gone, so that he could not make himself understood. Upon examining his throat, the velum and its pillars were observed red and swollen. Venesection, a sinipised foot-bath, and emollient drinks ordered. The following day he was much better; the general symptoms were relieved; but the aphonia was as complete as before. Ten drops of croton oil to be rubbed on the front of the neck. In twenty four hours there was a copious confluent eruption, the voice was regained, and the deglutition more easy. He left the hospital three days afterwards quite cured.

CASE VI.—*Diphtherite, or Stomatitis pseudo-membranacea*. An old soldier, upwards of sixty years of age, exhibited a specimen of this disease to our notice in the Hôpital de la Pitié. It had already existed for eight days, and had made considerable progress; the inside of the mouth and the surface of the tongue being covered every here and there with small oblong crusts, or laminae of a grayish-white colour, set upon red, inflamed, and swollen bases; the submaxillary glands were painful and enlarged; the breath excessively fetid, the lips swelled and of a purple hue; and the deglutition very difficult. Sixty leeches had been applied at two different times behind the jaws; and poultices and a multitude of gargles had been used without much good for the poor patient, who could scarcely articulate a word. Eight drops of croton oil were ordered to be rubbed in upon the sides of the neck. On the morrow a copious eruption of vesicles had appeared, and considerable relief was already experienced. From this period the disease appeared to have undergone a favourable change, and in fifteen days more, under the use of acid gargles and of poultices, it was altogether removed.—*Archives Gén. Aug. 1833, and Med. Chir. Rev. July, 1834.*

OPHTHALMOLOGY.

59. *On the Use of Soot in Diseases of the Eyes*.—The *Gazette Médicale*, for January, 1831, contains some facts collected by M. CARRON-DU-VILLARDS favourable to the use of soot in diseases of the eyes. M. Baudelocque, physician to the Hôpital des Enfants, has also extolled this article in scrofulous ophthalmia. The following is the formula of the first named practitioner:—Soot, $\mathfrak{z}\text{ij}$.; dissolve in boiling water, filter and evaporate to dryness. The residue, which is very brilliant, is to be dissolved in boiling very strong white vinegar, with the addition of 24 grs. extract of roses to $\mathfrak{z}\text{xij}$. of liquid. Some drops of this solution in a glass of water form a good resolvent collyrium. M. Carron-du-Villards recommends granulations of the cornea to be touched with a very fine brush wet with the following mixture.—Take of Opium, $\mathfrak{z}\text{ij}$.; Cloves, $\mathfrak{z}\text{j}$.; Washed soot, $\mathfrak{z}\text{iv}$.; Cinnamon water, $\mathfrak{z}\text{viij}$.; Alcohol, $\mathfrak{z}\text{iv}$. To be digested for six days in a warm place, and then expressed and filtered.—*Bulletin Général de Thérapeutique, March, 1834.*

60. *Of the Capsulo-Lenticular Reclination, or New Method of Depressing Cataract with a New Needle.* By M. BERGEON, Interne of the Hospital Saint Antoine, and Doctor of Medicine.—The frequency of secondary cataract is not questioned; a great service would therefore be rendered to science, by pointing out a method of operating calculated to prevent this unfortunate accident. This was the principal end which I proposed to myself; but I was also desirous of finding a method, which by its excellence and facility would bring to a close the interminable debate concerning extraction and depression. With this view I found it necessary, I will not say to invent a new instrument, but to modify considerably one of those employed by the partisans of depression. My task will doubtless seem very difficult to perform; consequently I shall esteem myself fortunate if I merely approach the end which I desire to obtain, since my efforts will then not have proved entirely fruitless.

To describe the instrument with which I operate, and the method which I employ, to point out the advantages which it seems to possess over those hitherto made use of, and to declare frankly the inconveniences to which it may be exposed, is the course which I intend to pursue in the following dissertation. The needle which I employ, and to which I give the name of *reclinator*, is of the same length as those commonly employed; it is composed of a blade having two surfaces, one convex, anterior, (with respect to the person operated upon,) or iridian; the other concave, posterior, or crystalline, (for I give notice that I shall employ these terms indiscriminately.) The convexity of the anterior or iridian surface, is formed by the reunion of two planes which form a rounded angle along the median line. The posterior surface is concave only in its longitudinal diameter, which is four lines; transversely it is perfectly flat, and differs in this respect considerably from the needle of Scarpa, which presents a bold angle or ridge in this direction; and from that of M. Dupuytren, which also presents a projection in the same direction, less pronounced however than in the needle of the Pavian professor. The transverse diameter of this surface is a line and a half; its concavity is such as to correspond exactly with the convexity of the crystalline lens. The point of the needle, instead of tapering off very finely, like that of M. Dupuytren, on the contrary terminates rather abruptly. The general form of this little blade is that of an oval, a little prolonged, and curved upon itself. The two edges may be distinguished into superior and inferior; the former should be a complete cutting edge throughout its length; the latter for the first half only, starting from the point; this last disposition is made with a view to prevent a lesion of the iris, as will be hereafter observed. The two edges of the blade terminate towards the handle in a narrow portion called the *neck*, beyond which is found a bluish mark two lines in length, which is of great advantage in making known to what extent the reclinator may be plunged in the ocular globe. It is the same object which Graefe wished to attain, by adding to his needle a little transverse bar; but is not the defect of such an expedient immediately obvious? The metallic stem which supports the extremity of the needle is an inch or an inch and a quarter in length. The handle into which the stem is introduced is of the length of the common needles; it has four surfaces or planes; one corresponds with the crystalline surface; it is traversed throughout its whole length by two little parallel lines, which are black if the handle be ivory, and white if it be made of ebony. Upon the plane which corresponds with the iridian face of the needle, are three rounded marks, equally separated from each other; the two planes of the handle which corresponds with the edges of the blade, have no particular mark, and may thus be easily distinguished.

I have already said that, in my process, it was my aim to remove as completely as possible, not only the crystalline in totality, but also the entire capsule, and to repel them unbroken, into a part of the eye, where they could no longer prove an obstruction to vision. If I attain this end, it must be acknowledged that I will have found the solution of a very difficult problem, and one which has been proposed by the illustrious Scarpa in his work upon the

Diseases of the Eye. He thus expresses himself, (5th edit.) "that which most generally opposes itself to the complete success of the operation for cataract, whatever method is employed, is not the crystalline lens, notwithstanding its density, more or less considerable, but the capsule of the affected lens, and more particularly the anterior convexity of the capsule. It would be very desirable to find an easy and efficacious method which would permit the surgeon, in the various modes of operating for cataract, to separate accurately, at the same time with the opaque crystalline, the entire capsule of the lens from the ciliary zone to which it is attached, as is sometimes accomplished by a happy and unforeseen accident."

It is precisely this last indication which I wish to fulfil by my process. I am well aware that certain partisans of depression aim at the same end; we shall soon see in what manner they endeavoured to attain it, and above all whether they have succeeded: I will afterwards expose my ideas with regard to this matter; but in order that I may be better understood, it is indispensable to recall in a few words, the manner in which the crystalline lens and its membrane are fixed in the eye; and that I may not be accused of partiality or exaggeration in the description, I will copy literally an anatomist who is an honour to the present school, and whose authority no one will question, viz. M. Jules Cloquet, who says,* "from the interval of the ciliary processes, and from the surface even of their anterior extremities, are detached innumerable small rounded filaments, transparent, united in bundles, which I think I was the first to point out, and which are directed towards the circumference of the lens, in order to attach themselves to its membrane, which they thus fix in a solid manner. These filaments expand, some upon the anterior surface of the capsule, the other upon its posterior face, but do not extend more than a line beyond its circumference. It is impossible to see them on account of their extreme tenuity, and their transparency, without having macerated the eye, (opened,) in a solution of gallate of iron; it is then only that their disposition can be studied. They form, as it were, so many little tendons, which keep the capsule and the lens in place. Much more visible in certain animals than in man, those filaments have been improperly regarded as the anterior lamina of the hyaloid membrane, to which they adhere posteriorly alone, at the point where they detach themselves from the ciliary circle. It is these which form the anterior paries of the pretended canal of Petit."

Method of Operating.—The patient having been properly prepared, and the pupil previously dilated by the extract of belladonna or of hyosciamus, he must be laid in a bed placed opposite a window, but so disposed that the light may fall a little obliquely upon the cornea. The head must be elevated by a bolster and two pillows; the arms placed under the bed-clothes will be easily retained by them. An assistant must stand behind the head of the bed, the head-piece of which should be but little raised; he must place one hand behind the neck of the patient, while with the other he raises the upper eyelid; by this means the head and the lid will be permanently fixed. The surgeon seated upon the side of the bed opposite to that of the eye to be operated upon, will find in the position of the patient, a point d'appui, the more convenient because it will be in his power to select it when he pleases. The eye of the patient being turned upwards and inwards, the needle must be held like a writing pen, with the right hand, (if the left eye is to be operated upon, et vice versa;) then the two last fingers resting upon the temple, and the needle directed transversely, so that its convex surface is superior; the surgeon must carry it two lines and a half behind the transparent cornea, and one line below the transverse diameter of the eye; by a quick movement he must then introduce the whole blade of the needle behind the lens, stopping however at the *neck* of the instrument, the advantage of which at this stage of the operation is easily comprehended. All the precautions which I have just indicated must be taken, that the long

* Manual of Anatomy.

ciliary artery may not be wounded. At the moment when the point of the needle touches the sclerotica, the extremity of the handle should be pretty low; but it is necessary to elevate it gradually, as the blade penetrates into the interior of the eye.

Before proceeding to the second stage of the operation, the handle of the needle is to be lightly turned in the fingers, so that the pointed surface from being superior becomes inferior. The needle occupies then the same position behind the lens which it is soon to occupy before that body. In order to accomplish this second stage, the blade must be depressed by elevating the handle; the superior edge of which alone is cutting its whole extent, is to be gradually directed forward, and must be carried gently under the capsule; it will thus embrace all the inferior and half of the exterior ligaments; it is to be raised afterwards by passing it before the lens and its capsule. However transparent this latter may be, it will be always easy with a little attention to recognise whether the needle is before or within it. Let us suppose first the most fortunate case. The operator will cut all the internal ligaments of the capsule with the point of the blade, he will then carry the superior cutting edge against the superior ligaments, and the remaining half of the exterior ones; then the needle being brought behind the pupil, and in a direction somewhat oblique, he will proceed to the third and last stage, viz. the reclinacion of the lens and its capsule entire. To accomplish this, the lens must be thrown backwards, downwards, and a little outwards, by carrying the handle of the needle upwards and outwards. This last stage of the operation is so easy, that the promptitude with which it is performed sometimes causes surprise. The crystalline must be maintained thus depressed some moments, in order that the vitreous humour may enclose it, and prevent it from rising again; to obtain greater security, the handle may even be gently turned in the fingers, so that the pointed surface may become inferior, and the linear surface be placed above.

It is apparent, that by this means it becomes very easy to bear upon the crystalline with the convex surface of the needle, even when it might not be distinguishable at the bottom of the eye, and there is no occasion to fear wounding the retina and the choroid coat with its point. I will suppose now, that in causing the needle to pass under the crystalline, and bringing it behind the iris, the operator penetrates between the lens and its capsule, instead of endeavouring to recommence this stage of the operation, which would not fail to irritate the iris, it is better to carry the point of the *reclinator* through the capsule, by directing the extremity of the handle strongly towards the temple of the patient. Being seized thus, the crystallized is torn throughout the greatest part of its extent, and is carried away with the crystalline. When the needle is to be retracted from the ocular globe, its linear surface is turned upward, and the extremity of the handle must be gradually raised; on the contrary it must be depressed by degrees, when the pointed surface or face is in that direction. It will be seen, that hitherto in the operative procedure, I have considered merely the first variety of the first species of cataract, viz. that in which the crystalline is hard. I should examine now the case in which it is soft, or that in which it is diffident; and finally, those in which it is capsular or mixed; but as my method is applicable to all of these cases, I shall say nothing particular concerning them, reserving to myself an occasion to say a word in relation to them, in speaking of the numerous advantages which I attribute to my reclining needle, (*aiguille-reclinateur*.)

The advantages of this method are, according to the author, the following:—

1. The operation is easier than by the other methods.
2. It is more effectual.

M. Bergeon afterwards passes in review the action of the needles in the different species of cataract, and finds that the utility of his instrument is principally obvious in soft, liquid, or milky cataracts, capsular or capsulo-lenticular ones, &c. He undertakes afterwards to combat the objections which might be brought against his procedure, the only one which seems to him to have any

foundation is this, that in gliding over the iris, in touching the ciliary bodies in certain points, an internal inflammation of the ocular globe might be produced; but the other methods are not exempt from these reproaches.—*La Lancette Française*, Oct. 1st, 1833.

SURGERY.

61. *New Method of Extracting the Stone from the Bladder, by a Perinæal Incision.*—Dr. MARIANO PANTALEO, the author of this method, remarks that the lateral operation is the one which has united the suffrages of the greater number of physicians, and that the only valid objection which can be made against it is, that it does not give a ready passage to large calculi. This inconvenience the author proposes to remedy by making a double incision of the prostate gland, but not after the method of MM. Dupuytren and Senn. Thus the left moiety of the incision regards the ascending branch of the ischium, as in the common lithotomy, while the other half is directed obliquely upwards, and to the right side.

According to Dr. Pantaleo, it is the superior portion of the prostate gland which offers the greatest resistance to the dilatation of the neck of the bladder wherever the incision is made low down; hence the most rational method is that by which this obstacle is overcome, and it was by following this principle that Martineau, according to the author, obtained his brilliant success.

The bilateral operation, as proposed by M. Dupuytren, has the advantage of giving passage to very large calculi, but is attended with some inconveniences; thus it exposes us to divide the bulb of the urethra, which is so much developed in old subjects, and particularly in calculous patients; or if we approach the incision too close to the anus, in order to avoid it, we run the greater risk of dividing the intestine. The incision of Beclard avoids the bulb, but it is too near the rectum, and not being parallel to the external incision, gives rise to the danger of an infiltration of urine.

Finally, the two incisions practised laterally by M. Dupuytren, leave the superior portion of the prostate gland untouched, and others do not remove the obstacle which has been noticed to the dilatation of the neck of the bladder.

The author's instrument is a double lithotome caché, the blades of which separate opposite one another, and to the usual extent. He makes an incision in the ordinary manner along the left side of the perinæum, opens the membranous portion of the urethra, and introduces the lithotome along the sound into the bladder. Having estimated the volume of the calculus, the blades of the lithotome are now opened to the proper size, the handle so fixed that the internal incision shall be exactly parallel to the external one, and the instrument is drawn outwards; hence results an inferior incision on the left side of the prostate, and a superior one on the right, or, in other words, the gland is divided by an oblique diameter, running upwards, and from left to right; this, according to the author, gives the most favourably disposed wound for the extraction of a stone; it is very regular, parallel to that of the integuments, and readily dilated.—*Lancet*, July 12th, 1834.

62. *Treatment of Club-foot, by Dividing the Tendo-achillis; a new Operation.* By Dr. LOUIS STROMAYER.—A division of the tendo-achilles has only been proposed in cases of amputation of the foot, by the method of Chopart, after which operation the foot is apt to be drawn backwards by the muscles on the back of the leg, predominating over those left upon the front part. This operation was received at first but coolly, and as cases suitable for its application were of very rare occurrence, it had fallen into complete neglect, when it was revived by Delpéch for the relief of those cases of club-foot, termed *piéd équin* where the heel is drawn forcibly backwards. It is based upon the important fact,

that in all cases of rupture of the tendo-achillis, instead of an immediate reunion taking place between the two extremities of the tendon, a sort of pad is found between them, which in time elongates itself to such an extent, that the entire length of the tendon is frequently very much increased, whilst at the same time its original strength is not impaired. The two following very interesting cases reported by Dr. Stromeyer prove that the theory of this practice is borne out by experience.

Observation I.—George Ehlers, æt. 19, a student of the seminary of Hanover, had laboured under a deformity of the left foot, which according to the statement of his parents, had first appeared when he was four years old, and without any manifest cause. He had been subjected at this time to various treatments, which had produced temporary benefit, but in spite of every thing the disease continued to increase, and at last became so bad that the patient was unable to walk a step. From the application of the different machines, &c. employed to keep the foot in a proper position, excoriations, and even ulcerations of some depth were produced, which after a time became complicated with caries of the metatarsal bone of the little toe, that required several years for its cure. In consequence of the pain and distress produced by almost every method of treatment, the parents determined to let nature have her way, and discarded every thing like regular treatment, merely attaching a wooden leg upon which the tuberosity of the ischium rested; with this contrivance the patient made shift to get along. In the month of October, 1830, the patient was brought to the orthopedic establishment of Dr. Stromeyer for the first time, and presented the following appearances. The left foot excessively deformed, the toes being forcibly drawn downwards and inwards; the external margin of the foot corresponded precisely with the axis of the leg, and the whole foot was extended to such a degree by the contraction of the muscles of the calf of the leg, that the margins of the foot formed a straight line with the anterior face of the leg. On the upper portion of the external margin of the foot there existed two callous spots, the remaining of those which had been formed in this position when the patient could walk. The degree of mobility enjoyed by the foot was extremely small, and the whole leg was very much emaciated. By the continued use of the wooden leg the limb had acquired a remarkable deviation from its natural condition; the deviation consisted in a projection outwards of the leg from the knee-joint. The length of the two extremities were nevertheless nearly equal, allowing for the great deformity existing in one of them. The right was large, and the muscles well developed, the superior surface of the right foot, however, was so projecting that the foot seemed to be much shorter than natural, and approached somewhat the same species of deformity with which the other was affected. Yet this peculiar conformation did not interfere with the motions of the foot. This circumstance should be recollected, as it shows that the original cause of club-foot may have its origin in the spinal marrow. The prognosis in a case of such great deformity was of course extremely unfavourable, yet as the patient was resolved to submit to any plan of treatment whatsoever that might be advised, Dr. Stromeyer determined to make an effort to relieve him, and he was the more willing to do this as there still remained some degree of mobility in the joints of the foot. Powerful extension was resorted to, and continued for the space of three months without any amelioration in the position of the foot, except that its sole was brought a little nearer the horizontal line. Excoriations were also produced by the bandages. After being fully convinced of the inutility of this plan, the Doctor determined to perform as a “dernier resource,” the section of the tendo-achillis. To this the patient readily consented. On the 28th of February, 1831, the operation was performed in the following manner. The patient was placed upon a table, with his left side presenting to the operator. The knee was firmly fixed by an assistant, and the foot firmly supported, and fixed in such a manner as to cause the tendo-achillis to be put upon the stretch by another. The instrument, a very narrow, sharp-pointed bistoury, was then introduced between

the tendon and the tibia, about two inches above the insertion of the latter, and in such a manner that its back part looked towards the bone, and its cutting edge towards the tendon, the latter was then divided. The object in using a small knife was to make the external wounds as small as possible, in order to prevent the introduction of air into the cavity, and the consequent suppuration and exfoliation of the tendon. This was divided without an opening, except that made by the knife in entering, being made in the skin. The hæmorrhage was little or none. The interval between the two extremities was about three-quarters of an inch in length, but the position of the foot was not materially altered. By extending the foot, the two cut extremities were placed in immediate contact. The external wounds made by the bistoury were covered over with a piece of adhesive plaster, and two long pads placed one on each side of the tendon, and confined by a few turns of the roller, which was afterwards carried over the foot, and so arranged as to keep it in a state of extension. It was not judged necessary to use a splint, the muscles of the leg being in such a state of atrophy that there was no apprehension of a displacement of the extremities of the tendon by their contraction taking place. The limb was placed upon its outer side, and supported in an elevated position by pillows. By the tenth day the two extremities were found to be perfectly united to each other, and the pain and slight degree of swelling that had existed for the first few days after the operation, had entirely disappeared. It was now deemed proper to commence with the extension of the intermediate substance. The foot at this time formed with the leg a very obtuse angle. The degree of extension for the first few days was very moderate, and applied with great caution for fear of breaking up the new adhesions, and moreover to avoid giving the patient unnecessary pain, who complained of pain in the cicatrix whenever it was carried to any extent. In eight weeks from the time when the extending bands were first applied, the foot was found to form with the leg a complete right angle. The Dr. was now enabled to apply a sort of boot, furnished on the outer side with an iron splint, which was interrupted opposite the ankle joint by a hinge. The hinge was furnished with a screw, by which the angle of the foot with the leg might be changed at pleasure; with the aid of this boot, and with a stick the patient was enabled to walk about his room, but the limb weakened by long inaction, soon became fatigued and swollen. From this time forward he continued gradually to improve, though the swelling for which frictions with camphorated spirit was prescribed occasionally would show itself. In two months time this had entirely disappeared; the foot formed with the leg a perfect right angle, its external margin being perfectly horizontal; the muscles of the calf of the leg had acquired considerable size, though still situated higher up than natural; his gait was without any imperfection whatever; in short a complete cure had been effected. The patient was examined eighteen months after the performance of the operation, and it was found that no disposition to a return to its unnatural position had been manifested by the foot, the knee had also regained its natural direction, and the patient walked without a stick. It is obvious that the success met with in this case was dependent upon the division of the tendon; the muscles of the calf having remained almost in the same position during the whole treatment, shows that it was not by an extension of their fibres that the cure was effected.

Observation II.—The second case is that of a M. Blumenthal, æt. 32, whose left foot was the seat of the deformity. He stated that at the age of eighteen months he was attacked with an inflammatory affection, accompanied with convulsions, and that during this illness the deformity had commenced. The deviation increased gradually from this time forwards, but had not until within a few years past prevented his walking about and attending to his business; latterly, however, it had arrived to such a degree, that he was sometimes obliged to confine himself to his bed. Upon examination, the foot seemed to have almost reached the highest grade of deformity. Its outer margin, as well as the toes, were drawn downwards and inwards to such a degree, that in walk-

ing the back of the foot came in contact with the ground, and from the continual pressure which it had necessarily undergone, was covered by a thick and horny collosity. The point of the foot deviated so much from its natural position, that in walking it looked directly backwards, and by coming in contact with the ankle joint of the other foot, kept it in a constant state of irritation. The heel was elevated to some height, and did not touch the ground at all in walking. The muscles of the calf were sufficiently well developed, though situated higher up the leg than natural; the tendo-achillis on the contrary was smaller than natural. Notwithstanding the extreme degree of deformity, the articulations of the foot were moveable, though it is true not to any great extent. The first thing that was done in this case was the removal of the callous from the back of the foot, and from its outer margin; (the callous in some places was half an inch thick.) The foot was then dressed and placed in the extending machine for three weeks, with the design of placing the foot under the axis of the leg, which was in part effected. On the 12th of June, 1832, the tendon was divided as in the first case, with the exception that the knife was introduced three inches instead of two, above the insertion of the tendon, in order that the newly-formed tissue might be as far removed as possible from the spot upon which the extending bands were afterwards to be placed. The dressings here also resembled those made use of in the first case, only it was thought better from the size of the muscles of the calf to place a splint upon the anterior face of the foot, so as to prevent their spontaneous contraction. In a short time after the operation the patient was attacked by cramps in the calf of the leg that had been operated upon, which came on the moment he went to sleep; in this way he was kept awake all night. The next day the bandage was taken off, and the extremities of the tendon brought into contact, and a roller passed up the leg to prevent the contraction of the muscles. Nevertheless they reappeared more violently than before, and the patient passed another sleepless night. The bandage was taken off, and the splint applied, the foot and lower part of the leg only being enveloped by a roller. From this time the cramps never again appeared. Ten days having elapsed, and the extremities of the tendon being firmly united, the apparatus for extension was applied. In about ten weeks after the performance of the operation, the patient quitted Hanover in the following condition. The foot formed with the leg a complete right angle, and in walking its sole came into uniform contact with the ground. There nevertheless remained some traces of the original deformity. The back of the foot was still very convex, which proceeded from a manifest curvature in the metatarsal bones; and the thenar eminence was also turned inwards. When walking with care the foot was turned outwards, when, however, he walked without paying any attention, or very quickly, the point of the foot still directed itself a little inwards, though without striking against the other foot. The muscles of the calf of the leg were well developed, though situated higher up than in the right. It was also impossible in this case, as in the other, to determine with certainty the length of the substance formed between the divided extremities of the tendo-achillis, although the space made by a division of the tendon was more perceptible than in the first.

There is probably no other case on record, where a deformity of the foot, so extreme in its character, and of such ancient date, has been converted by the efforts of art into a condition so nearly normal. The circumstances which induced the doctor to undertake the treatment of the case should also be recollected; they were—1st. The ankle joints being still slightly moveable; 2d. The muscles of the calf of the leg being still tolerably well-developed; and finally, the foot being covered by a solid dermoid coat, there was not much tendency to excoriation. It yet remains for us to describe the apparatus by means of which this extraordinary cure was effected. It consists of a splint, somewhat wider than the leg, upon which the latter was made to rest. At the point corresponding with the heel, the splint was divided by a mortice cut in its centre into two equal parts, which were made to extend some inches beyond the sole

of the foot. To the bottom of the mortice, and close to the heel, a sort of wooden sole was attached by a moveable articulation, by which means the angle which it formed with the long splint might be either increased or diminished. Two cords were attached to the superior third of the wooden sole, and then carried over two pulleys, solidly fixed to the edges of the long splint, upon a line corresponding to the inferior third of the leg. After they had passed round the pulleys, they were brought down the edges of the splint until they reached the extremities of the arms of the mortice, where they were attached to a small cylinder, which turned with a crank. By fixing the foot firmly to the wooden sole, and thus turning the cylinders to which were attached the cords, the whole foot might be made to approach a right angle, and be retained in that position as long a time as could be supported by the patient. The degree of force that could be applied with this apparatus, although very considerable, could nevertheless be limited by reversing the action of the cylinder to any extent whatever.—*Gaz. Méd. Sept. 28th, 1833, from Rust's Mag. Vol. XXIX.*

63. *Subcutaneous Vascular Nævus*.—W. C. WORTHINGTON, Esq. reports in the *Lancet*, (12th July last,) the case of an infant with this disease, situate on the right side of the chest just below the axilla, in size a little exceeding a shilling. The surface of the nævus was rubbed a few times with an ointment of tartar emetic, when it became covered with pustules, which were soon confluent; granulations sprung up, which were occasionally touched with the nitrate of silver; simple adhesive plaster was then applied as a dressing, and a complete cure effected, nothing remaining but a superficial cicatrix.

Mr. C. Hickman, in a former number of the same journal, (for April, 1834,) reported a case of vascular nævus cured by the application of a liniment composed of tartar emetic and olive oil.

64. *Imperforate Anus existing for Two Months*.—The subject of this case was a female infant who, when two months of age, was in an almost dying condition, taken to M. Caussade. This infant vomited fecal matters; had hiccup; the pulse was small, contracted; the face livid, and covered with sweat; the voice almost extinct; and the abdomen much distended. She had been placed out to nurse immediately after her birth; her clouts were observed to be wet and slightly soiled, but the nurse never observed any alvine evacuation as in other children. As the little one was, however, in good health, and even grew fat, the nurse continued to suckle her without seeking the cause of the absence of alvine evacuations. On examining the infant, M. C. found that there was no anus, or trace of one. She passed through a capillary opening at the posterior part of the vulva, very near to the hymen, a thick and yellowish fluid, which, when the infant cried and struggled, spouted out as if discharged from the spout of a small syringe. During the straining of the infant, a tumour projected in the perinæum, and in a part of the breech. To relieve the perforation, M. Caussade made an incision three or four lines in depth in the place which the anus ought to have occupied. He found at the bottom of the incision a mass of hard and yellow fecal matters. It was necessary to break them up, and they were removed by means of a scoop. Several injections were administered, which brought away a large quantity of yellow liquid matter. The wound was kept open by a lint tent. The next day the fecal matters were readily discharged, all the unpleasant symptoms ceased, and the health of the little patient was restored.—*Gazette des Hôpitaux, March 29th, 1834.*

65. *Successful Treatment of Disunited Fracture by the Tourniquet*.—In a case of disunited fracture of the femur of twenty-one weeks' standing, and which resisted all the ordinary means of procuring union, has been successfully treated in St. Bartholomew's Hospital by the application of tourniquets lightly round the fractured part of the limb. The patient was middle-aged, and in the enjoyment of excellent health.—*Lond. Med. and Surg. Journ. Sept. 28th, 1833.*

66. *Luxations of the Humerus*.—M. GERARD recommends the following method for the reduction of luxations of the humerus. He states, that he has employed it successfully in every case, (eight cases,) in which he has resorted to it, of luxation of the humerus downwards, and more or less forwards or backwards. The patient being seated on a chair, an assistant placed on the uninjured side, passes his arm around the neck of the patient, and with his two hands crossed upon the dislocated shoulder, produces counter-extension. The operator placed on the injured side, raises the limb from the body, flexes the forearm on the arm, holds it, or has it held against the chest of the patient, and placing his left forearm under the upper portion of the luxated bone, as near as possible to the axilla, he flexes this forearm by pressing it against the patient, so that the cubital extremity of the luxated humerus is supported upon the side of the operator, who then exerts upon the luxated part a single traction, which suffices to effect reduction by replacing the head of the humerus in the glenoid cavity. It is essential to retain the inferior extremity of the luxated bone, firmly supported against the side, and as near as possible to that of the patient. In ordinary circumstances, a common man need not exert more than one-third of his strength to effect reduction, which is accomplished by a single effort, and without the patient having time to complain.—*Journal Hebdomadaire*, II. 126, 1834.

67. *New Pad for Trusses*.—MM. CRESSON and SANSON have devised a new pad for trusses, which is said to be very superior to the common one. This new pad is formed of gum-elastic, and is made either solid or hollow, in the latter case it is properly distended with air, which may be either permanently confined, or the pad is so constructed that the quantity of air in it may be increased or diminished at will.—*Gaz. Méd. March 15th*, 1834.

MIDWIFERY.

68. *Rupture of the Vagina during Delivery*.—A healthy woman, about thirty years of age, and who had borne one living child, was the subject of this case. The labour had continued about eleven hours, and had been rather difficult and tedious in consequence of an œdematous swelling of the labia, and of the lower extremities. The head had already descended fairly into the cavity of the pelvis, and the pains had become more severe, when on a sudden they ceased entirely; the patient complained of a sharp pain in the right iliac region; vomiting and general coldness succeeded, and the patient died in the course of an hour.

The different parts of the fœtus could be distinctly felt through the abdominal parietes. No outward hæmorrhage occurred.

Dissection.—A small quantity of blood was found in the abdomen; the uterus empty, and contracted upon itself, was inclined somewhat to the right side, and presented in all respects a normal appearance. The fœtus had escaped into the cavity of the abdomen, and its body was enveloped among the intestines, the knees being placed against the abdominal parietes, while the head remained still in the passage, and was, as it were, incarcerated there by the edges of the opening, firmly applied round the neck. The laceration had taken place in the upper part, or vault of the vagina, which was enormously stretched, the child being unusually large. The placenta had descended into the vagina, and was partially protruded through the rent into the abdomen.—*Med. Chirurg. Rev. from Siebold's Journ. der Geburtshulfe*.

69. *Injections of Cold Water into the Umbilical Cord to Promote the Separation of the Placenta*.—Professor HOHL states that this method, first recommended by M. Mojon, will often succeed perfectly if it be used sufficiently early, and

provided the vein does not contain too much blood; for sometimes cases occur in which it is not possible to dislodge the blood which the vein contains. One injection will frequently suffice. If we listen with the stethoscope over the region of the womb, where the placenta is attached, while a quantity of water is injected into the cord, a noise or rhonchus coming as if from a distance is heard; this noise is quite distinct from that of any pulsation. In favourable cases the sound becomes louder and stronger, and in addition to it, other rhonchi of a more sibilant or whistling character becomes audible. Professor H. states, that he never could hear any of these last described sounds in cases in which the placenta remained obstinately attached; they would therefore seem to be connected with the contractions of the uterus. These contractions are necessarily very imperfect, when the placenta remains fixed; and hence perhaps the absence of the sounds in these cases. Professor H. recommends that the injection of the cord be used even when it does not succeed of itself, and when therefore it is necessary to remove the placenta by manual assistance, it may be a serviceable adjunct.

The most frequent cause of failure with the injections alone, is spasmodic contraction of the uterus.—*Med. Chirurg. Rev. from Allgemeine Medic. Zeitung.*

CHEMISTRY.

70. *On a New Alkaloid substance called Quinodine discovered in Yellow Bark.* By MM. HENRY and A. DELONDRE.—This substance is white, crystallizable in prismatic needles, in the state of a hydrate. It melts into a mass of a resinous appearance, only at a much higher temperature than that required for the fusion of quinine. It is extremely bitter, especially when dissolved in alcohol or an acid. Alcohol of the sp. gr. of .949, or even .963, holds it in solution, but by the spontaneous evaporation of this liquid it is deposited either in crystals, or at first in a sort of resin, which, when moistened by alcoholic water, changes by degrees, on exposure to the air, into beautiful crystalline needles. Cold sulphuric ether dissolves also a small quantity of it. These needles, collected and dried, effloresce in dry air. They speedily turn the syrup of violets green, and restore to its blue colour turnsole paper reddened by an acid.

They combine perfectly with sulphuric, hydrochloric, nitric and acetic acids to form white pearly salts, very crystallizable like those of quinine and precipitable by soda, &c. The hydrochlorate appears only more needle-like (*aiguille*) while with quinine it is often in plates like common boric acid. Quinodine at a high temperature is decomposed, diffusing at first an aromatic, then an empyreumatic animalized odour, and a part of the alkaloid is sublimed in the midst of its volatile products.

Its elementary analysis has not yet been determined, but it appears to be rich in azote. It resembles quinine in its form, small degree of volatility, its solubility in alcohol much diluted, and its saline combinations. It differs from this substance by its great tendency to crystallize, and its being less fusible, its being less soluble in sulphuric ether, and by the property which it has in its resinous state of assuming in the air, the form of crystals when moistened with alcoholic water,—an effect which its discoverers have not observed to occur with pure quinine.

Quinodine is found in the yellowish waters which float on quinine and cinchonia after the distillation of the alcoholic tinctures and the preparation of quinine. It is accompanied by a yellow substance supposed to be an acid.

The discoverers promise hereafter to give the processes for procuring *quinodine* pure.—*Edinburgh Med. and Surg. Journal*, from *Journal de Pharmacie*, November, 1833.

71. *New Ether*.—M. PELOUZE lately discovered a new ether, which he calls "Hydrocyanic," while examining the effects produced by heat on a mixture of the sulpho-vinate of barytes with cyanuret of potassium. This ether is liquid, colourless, possesses a very pungent alliaceous odour, and acts energetically on the animal economy. It is inflammable; boils at 82° under atmospheric pressure; its density is 0.787 at a temperature of 15° ; it is but little soluble in water, but is perfectly so in alcohol or sulphuric ether. It does not precipitate the nitrate of silver, and in this respect resembles hydrochloric ether, which does not decompose the salt until it has been destroyed by the action of heat. M. Pelouze regards the hydrocyanic ether as composed of equal volumes of olefiant gas, and of the vapour of prussic acid condensed one-half. The idea of searching for this ether, was suggested to M. Pelouze by an observation of M. Leige, who discovered a peculiar substance possessing acid properties, and formed by the action of barium on the sulpho-vinate of barytes; its composition was such as to lead to the conclusion, that it was a kind of alcohol, in which the oxygen was replaced by sulphur.—*Gazette des Hôpitaux*.

MISCELLANEOUS.

72. *Beaumont's Experiments*.—Our countryman, Dr. BEAUMONT's work, entitled "Experiments and Observations on the Gastric Juice, and on the Physiology of Digestion," was presented to the French Academy of Sciences at their meeting of the 10th of March last; and on motion of M. ARAGO, a committee was appointed to examine these experiments in order to suggest new ones if those already made were not sufficient. M. Roux stated, that a case similar to that of Dr. Beaumont's had occurred at Paris. The subject of it was a woman, and experiments relative to digestion had been made upon her, which were supposed to have hastened her death.—*Gaz. Méd. March 15th, 1834*.

73. *Examination of the Trials made with Homœopathic Medicine in the Military Hospital of St. Petersburg*. By Dr. SEIDLITZ.—The celebrated Berlin surgeon, Dieffenbach, has very truly said, that this new doctrine "offers a vast field to the most absurd reveries and antiquated superstitions, which some shallow men always prefer to whatever is clear and palpable;" and all who have perused their oracular book or institute, the "Organon of Medical Science" as it is modestly called by the author, must have arrived at the same conclusion. There is an utter destitution of all rational proofs of the opinions, or rather dogmas, there announced. Proceeding from a few appearances, at best of very exceptionable accuracy, Hahnemann leaps at once to the assertion—that no medicine ever cures a disease, unless it is capable of exciting in a healthy system symptoms altogether analogous to those which it is employed to relieve. Almost all chronic diseases, we are informed, are caused by ill-cured itch. There is no proof given of this—only we are told that it is so! Then another wondrous discovery is, that the ten-millionth part of a grain of charcoal is a very active agent in some diseases; and that many medicines are extraordinarily exalted in efficacy by the number of times the vial which contains them in solution is shaken! Yet, such is the hungry credulity of mankind, that all these good things are swallowed, nay, even digested, if we may judge from the products, we mean of the brain, which, with all suitable consistency, are inversely proportionate to the ingesta. Born and nursed in Germany, that fatherland of wild phantasies, this curious doctrine has been diffused over Switzerland and Italy—has entered France, and reached Lyons, and even Paris. Like every novelty, it blinds and infatuates many for a time. When we hear of old-established practitioners, not to allude to numerous young men, who cannot possibly be influenced in their choice by any selfish or mercenary motives, forsaking their accustomed ways, and fondly embracing the most ridiculous vagaries as the only truth, can we

explain such an occurrence in any other way than by thinking of many other absurdities which have been for a time tolerated, admired, adopted, applauded, and then ridiculed, scoffed at and despired.

Well has it been said by one of the great German poets, Goethe.—“For even when all ideas are wanting, a word or two will supply their place; with words you may fight most famously; with words you may build a system of philosophy; if a man but hears words he will believe them.” To give a specimen of the practical excellencies of homœopathism, we cannot do better than allude to the course which has been pursued by the Russian government towards it. A Saxon physician, Dr. Hermann, the great apostle of the system in Russia, was invested by the Grand Duke Michael with full powers to display, in a course of clinical experiments, its superiority over the common practice and theory of the day.

One of the wards of the Hôpital de Tuttschin, which contained a number of soldiers affected with fever and dysentery, was allotted to his special management during a space of two months.

The following table exhibits the results:—

	Patients.	Cured.	Died.	Rem.
Common method	457	364	—	93
Homœopathic do.	128	65	5	58

Notwithstanding the results of this experiment were so decisive against the new doctrine, the ministers of the Russian government some time afterwards summoned Dr. H. to Petersburg, gave him authority to select his own hospital, and to make any arrangements he thought fit. The wards were fresh painted, and every hygienic precaution faithfully executed. Even the kitchen was placed entirely under his controul and superintendence; and in order to prevent the possibility of any interference a sentinel was placed before the door, and none permitted to enter during the occasional absence of Dr. Hermann. His first request respecting the patients was a very moderate and modest one, viz. that none should be sent to his hospital who laboured under ulcers, syphilis, dropsy, phthisis, &c. and that he should have the selection of all his cases!! Even under these most fortunate circumstances, the results were most unfavourable to the new practice; the proportion of deaths to recoveries was much higher than in ordinary practice, and the duration of the treatment was always protracted and tedious. Here is a specimen of the reports. The case is pronounced one of peripneumonia.

History.—Patient ill for seven days; severe frontal cephalalgia; pains in the eyes; tongue clean but dry; thirst; bitter taste in the mouth; anorexia; bowels open; dry cough during the night, and this is accompanied with pains in one side, which are increased on pressure; pains felt in the arms; skin cool; pulse full and not frequent.

An infinitesimal dose of arnica ordered. Next day but little change; but after this the symptoms gradually subsided, and the patient was discharged cured on the nineteenth day after admission.

A well-marked example of peripneumonia indeed!! A slight catarrh with an equally slight disturbance of the stomach. Forty-seven cases are detailed by Dr. Seidlitz, many of which are still less entitled to the epithets bestowed upon them.—*Rev. Méd. Feb.* 1834, from *Hecker's Annals*, November, 1833.

74. *Death of St. John Long.*—This notorious individual, the most successful quack of the day, in one sense of the word at least, died lately in London. It appears that he fell a victim to the very disease, (pulmonary consumption,) for the cure of which he pretended to possess an infallible cure. A remarkable commentary this upon the blind credulity of his numerous dupes, among whom were several persons of rank, and in other respects of intelligence.

AMERICAN INTELLIGENCE.

Account of the Cholera in New York during the present year. By C. A. LEE, M. D.—[Communicated in a letter to the Editor.]—DEAR SIR, I embrace a leisure moment to give you a short account of the cholera, since its reëpearance in our city. About the 1st of July bowel complaints began to prevail very extensively, especially among the poor residing in crowded and ill-ventilated apartments, and occasionally a case occurred with the same symptoms as attended the cholera in 1832. Indeed, sporadic cases of this disease have from time to time appeared here since its prevalence in that fatal year, several of which occurred during the last winter and spring. On the 14th of July, a few days after its appearance in Canada, I attended a patient, who had been employed in rafting and been much exposed to wet and fatigue; an intemperate man, and living in a filthy habitation. I found him with violent cramps, cold, shrivelled skin, rice-water dejections, and almost imperceptible pulse, and the other symptoms characterizing this stage of cholera. He recovered.

On the 9th of August the board of health began to report, and reported fourteen deaths as having taken place since the 23d of July. From that period they continued their daily reports until the 16th instant, including fifty-three days, the total number of deaths being 636; 168 being hospital patients, 331 city, and 69 at Bellevue. The whole number reported by the city inspector, however, during the same period, is 734; and if to this we add the number for the last week, 93, we have 827 deaths to September 20th, averaging about 13 deaths per day. This, for a population like ours, is certainly very light; much more so, indeed, than in most of the places north and west where it prevailed the past season. Compared with 1832, it has not prevailed to one-quarter the extent it did then; nevertheless, it is worthy of remark that for the last seven weeks the mortality by *all* diseases has been more than half as great as in any seven weeks of 1832. In that year, during the greatest prevalence of cholera, the number of deaths by all diseases was 4,158; during the past seven weeks 2,376. The whole number of deaths in 1832 was 10,359; in 1833, 5,746. This apparent anomaly may perhaps be explained when we consider the large number of deaths from other analogous diseases of the gastrointestinal membrane, such as dysentery, cholera infantum, diarrhœa, enteritis, and common cholera morbus. Of these, cholera infantum furnishes much the largest proportion.

Another fact worthy of note perhaps, is the exemption in a very great degree of those sections of the city which suffered severely in 1832. This has not been uniformly the case, but sufficiently so to excite public remark. For example, in the 1st, 3d, 5th, and 15th wards there have been more cases of cholera than in 1832. In Warren street, 3d ward, there have been from fifteen to twenty deaths; in 1832, only three or four. In Anthony street, 5th ward, on the west side of Broadway, it is said there have been at least one hundred cases; in 1832, not more than twenty in the same district. The parts of the 15th ward which were mostly the seats of disease in 1832, have this year been nearly exempt. In 1832 the number of cases in the 6th ward was seven hundred, this year about seventy-five. The 12th ward, which suffered severely in 1832, has nearly escaped the present season, and so of other districts of the city. Some of the most low, filthy, and confined parts of the city have entirely escaped, while other portions of an opposite character have suffered. There have been several remarkable instances in which whole or nearly whole families have been carried off, and that without the aid of any known

local causes. In such cases I have generally been able to trace it to the effects of fear, grief, anxiety, watching, or fatigue. Even the common people, with few exceptions, consider the disease non-contagious; accordingly, there has not been that panic which prevailed during the former period, and which drove a large portion of our citizens to the country; nor a want of nurses and attendants upon the sick, (not to say *doctors*,) which rendered the establishment of hospitals absolutely necessary. The doctrine of contagion, I am confident, has gained few converts since the reëappearance of cholera in New York the present season.

On a former occasion, I communicated to you briefly my views as to the pathology of the disease, and additional experience and observation serve to confirm me in the belief of their correctness. Indeed, after the numerous facts presented by Broussais, Cruveilhier, Andral, Hope, Jackson, and other able pathologists, there seems to be scarcely any thing wanting to place the pathology of this disease on an immoveable footing. The results of fifteen autopsical examinations of cholera subjects fully confirms me in the belief of the doctrine that the disease consists primarily in an exalted action of the capillary and secretory vessels of the gastro-intestinal membrane, resulting from a high abnormal state of irritation. The views presented on this subject by Dr. Jackson in this Journal, are luminous, incontrovertible, and above all praise. They have received, and will continue to receive, the assent of most candid physicians who diligently employ the same means of eliciting truth that he has done.

I have noticed, in a late work on Cholera, by Dr. Casanova, an attempt to controvert this doctrine on the assumed ground that "the sinking of the circulation in cholera patients, and the weak action of the heart, precedes the cholera evacuations." Now, in the first place, admitting this to be a fact, which I do not, it does not by any means follow that the subsequent phenomena are not the result of a vital reaction developed on the gastro-enteric surface, causing choleric discharges of an active or inflammatory character. If the experiments of Majendie, Orfila, and other physiologists are to be depended upon, such, indeed, is the effect of all poisons taken into the circulation, and in consonance with this general law of the elimination of morbid substances from the circulation, such also should we expect to occur in throwing off the virus of cholera. But I apprehend that few physicians have an opportunity of examining cholera patients previous to any evacuations, as a case cannot be known to be cholera till some of its characteristic symptoms appear. Of a large majority of those, however, whose history is ascertained, it is found that simple diarrhœa, with or without pain, constitutes almost the only symptom, while the strength remains for some time unimpaired and the circulation active.

Those cases form an exception to this remark, where the earliest symptom is vomiting, brought on by improper aliment, or the excessive use of alcoholic stimulants. These, however, are comparatively rare. On this point medical testimony is almost unanimous. Dr. Kirk, of Greenock, in his able pamphlet, remarks, "there is still a question among practical men, if a state of excitement always precedes the attack? I think it does. In all cases I have had it in my power to observe from the first it has done so." Other authorities to the same point might be quoted, but I forbear. I recollect, indeed, one singular instance, where a medical man from the country, after having gone through the wards of the Greenwich Cholera Hospital, in which were about sixty patients in all stages of the disease, fell insensible to the floor, and was shortly afterwards attacked with the disease. But in this case the individual was labouring under excessive fear, and his tongue was completely coated with a white fur, indicating a high state of irritation of the stomach and bowels.

The theory of Dr. C. that the disease consists principally in spasm, particularly of the heart, is entirely unsupported by facts or reasoning. It is indeed less satisfactory than most of the pathological doctrines against which he contends, and the treatment which he proposes, viz. injection of tobacco smoke, is no less ineffectual than his conclusions are unsound.

With respect to the treatment of cholera, though there has been by no means so great a degree of uniformity as could be desired, yet a majority of the practitioners of this city have pursued a course if not dictated by the pathology already hinted at, yet certainly in consonance with it. Accordingly, stimulant cathartics have been very generally proscribed, while ice has been extensively used internally, and revulsives to the surface. A few, bold, dashing physicians, have persisted in the employment of drastic purgatives, and some valuable lives, no doubt, have been sacrificed to this incendiary treatment. It is a singular, but lamentable fact, that some physicians will persist in a fatal mode of treating a disease; their minds are so blinded by prejudice, or biassed by preconceived theory. Let such read the following remark of the illustrious Sydenham, contained in his treatise of the cholera morbus of the year 1669. "I have found by much consideration, and by manifested experience, that if I should endeavour to expel these sharp humours that are the fuel of the disease, I should do just as he that endeavours to quench fire with oil, *seeing the operation of the most gentle purge would but cause greater disturbance and raise new tumults,*" &c.

Notwithstanding the doctrine of the humoral pathology, which influenced his practice, should have led Sydenham to have expelled these humours by cathartic medicines, yet observation and "manifest experience" taught him that this treatment was hazardous, and therefore he abandoned it. The physiological practice then is not only the offspring of a correct pathology, but of varied observation and experience in different countries and ages. Let it therefore undergo the ordeal of fair experiment before it be condemned.

In the commencement of the epidemic of 1832, I treated many cases of cholera, or premonitory diarrhœa, by moderate doses of rhubarb and magnesia, or castor oil; but I found that though this course would sometimes succeed, yet they frequently terminated in severe attacks of cholera, several of which proved fatal. The same occurred in the practice of others, so that those who have seen and treated the disease to any extent, have abandoned cathartic remedies almost entirely from the treatment. On the reappearance of cholera the present season, I pursued a different course, and with far more satisfactory results. After the employment of a Cayenne pepper pediluvium, I directed the patient to take a table-spoonful of the following mixture, every five, three or four hours, according to circumstances:—*R. Cretæ ppt. ʒijss.; Pulv. g. acaciæ, Sacch. alb. āā. ʒj.; Sal. sulph. morph. ʒj.; Carb. potass. gr. xv.; Aquæ menth. sat. ʒiv. M.*

This, with farinaceous diet, mucilaginous drinks, and in severe cases confinement to bed, with general or local bleeding, has succeeded *in every instance* in arresting the disease. Occasionally I have added a small quantity of the tincture of kino, galls, or catechu, and sometimes I have thought with advantage. A powerful adjuvant in such cases, is a mustard cataplasm to the epigastrium. Where the diarrhœa is urgent, or attended with nausea or vomiting, this is indispensable. If the patient can be got into a warm perspiration, evidencing full reaction, he is generally safe. By this plan I succeeded in 1832, in treating nearly one hundred children at the Orphan's Asylum with invariable success, though two who were taken the day before I commenced attendance, and were treated differently, died. To check the vomiting, mustard and other external revulsives, with ice, iced Seltzer or soda water internally are by far the most effectual remedies. I have found few, if any cases this season, but what yielded to this plan.

In the collapsed state, a large proportion have died under every mode of treatment. Most of those cases reported as cures from collapse, were doubtless labouring under partial collapse only, a debility of the circulation, with more or less coldness of the surface. Such have occasionally recovered under directly opposite modes of treatment.

Violent frictions, with mercurial and stimulant preparations, I have entirely abandoned, believing that the alarm and agitation they occasion to the patient, more than counterbalances any advantages attending their use. It is but very rarely that the patient survives a sufficient length of time to produce mercurial

action in the system; and where he does he is very apt to be cut off by cerebral congestion, or the mercurial fever which follows. Besides, if the patient recovers, the injurious consequences resulting from saturating the system with such a quantity of mercury, are of a most serious nature, and absolutely render life a burden. I therefore do not wonder that *M. Velpeau*, after having extensively employed mercurial frictions in his hospital in Paris abandoned their use, for other less objectionable means; and I fully agree with the editor of the *Archives Générales*, in his No. for April, 1832, when he says that "mercurial frictions have been followed by favourable results in cases apparently desperate; but these are too few, and too vague, to justify much confidence." Thus much would I remark in relation to this remedy; having undesignedly contributed in bringing it into notice in 1832.

In collapse, then, I have employed with the greatest success powerful revulsives, such as mustard, Cayenne pepper, flies dissolved in strong acetic acid, boiling water and common epispastics, especially to the epigastrium; while I administered internally, if the stomach would retain it, chicken or mutton broth containing a very little salt; and to relieve the thirst, nausea, or sense of burning, ice and iced water in small quantities. I have repeatedly witnessed the best effects from the administration of animal broths in these cases, and I believe they are more likely to be retained on the stomach than any thing else. They are certainly better adapted to fulfil the important indications of relieving the irritation, while at the same time they sustain the strength, than any other articles within my knowledge. Stimulants, internally, will almost invariably excite vomiting, and so far from rousing the patient, or giving him any real strength, only sink him the lower.

In general, I would remark, that the disease has been more mild and manageable than in 1832; the cases have been more protracted, and not so suddenly fatal. The intemperate class, as usual, have suffered most; though a few temperate and highly respectable individuals have fallen victims. At present, a few deaths are occurring daily, and I should think it probable, that sporadic cases will continue to occur for some time.

New York, Sept. 21st, 1834.

Twelve Cases of Poisoning by Arsenic in the Same Family. By W. G. RAMSAY, M. D. of Charleston, S. C.—On Sunday, August 4th, I was requested by Dr. George Haig to visit with him a family composed of twelve coloured persons in Smith's Lane, who had sent for him in haste, as they were all seized with vomiting immediately after dinner, which created much alarm. The account we received was, that having dined at 2 o'clock, all of them eat of fowl soup; they had taken very little of the soup, when they were seized with nausea, followed with vomiting; two of the children complained that the soup tasted bitter, and refused to eat it. Dr. George Haig saw them about an hour after they were taken sick, and suspecting from the aggravated symptoms that they were poisoned, and not being able to attend personally to so many, he sent for me, and requested my assistance. Dr. T. Y. Simmons was also sent for by the family, who kindly rendered his aid.

I will proceed to give the notes on the cases separately.

CASE I. Rose Pensel, coloured girl, aged nineteen years, sanguineous temperament, was seized with vomiting, retching, and burning sensations in the stomach immediately after eating, which was followed by convulsions; dilatation of the pupils; cool skin; pulse 120, small, quick, and irregular; when the convulsions subsided, she complained of excruciating pains in the head and stomach. R. An emetic of sulph. zinc. assisted with large draughts of warm water, which vomited her freely; white of eggs beat up; sinapisms to legs; twelve ounces of blood from the epigastrium by cups; iced gum water, wine-glassful every fifteen minutes; ice applied to head. 8 o'clock, P. M. Has vomited but twice since last visit; skin not so cool; convulsions abated; expressed much relief of pain in stomach from cups; much determination to head;

stupor. *R.* Continue gum water and cold applications to head; warm fomentations to epigastric region.

August 5th, 6 o'clock, A. M.—Slept well during the night; skin warm; complained of much head-ache; delirious; pupils dilated; intolerance of light, eyes suffused; pulse small and quick, 120. *R.* Six ounces of blood from back of neck by cups; cold to head, and warm fomentations as far as knees by means of blankets, wrung out of hot water; *Ol. ricini*, ℥ss. 1 o'clock, P. M. Has been quiet; does not complain of so much pain; skin comfortable; brain symptoms greatly relieved; no operation from bowels. *R.* Stimulating enema; continue applications. 8 o'clock, P. M. Drowsy, sleeps much, with muttering; no operation from bowels. *R.* Small doses of *sul. magnesia*; continue applications.

6th, 8 o'clock, A. M. Did not sleep well; intellect confused; complains of dull pain in head; salts operated, stools black and offensive; pulse small and irregular, 112. *R.* Twelve leeches to neck; blister between shoulders; continue *sul. magnesia* in small doses. 2 o'clock, P. M. Much better; bowels well evacuated; intellect clear; pulse regular, 100. 8 o'clock, P. M. Continues better; skin moist and comfortable; no dilatation of the pupils; pulse 96; blister has drawn well; ordered to be kept quiet.

7th. Has had a good night's rest; feels much better; complains of no pain; convalescent. The symptoms of this individual's case were the most aggravated, on account of her having eaten more of the soup than any of the others; the acute symptoms of the brain were much alleviated by the warm fomentations applied to the inferior extremities as far as the knees. I recollect a remark made to me by Dr. S. Jackson, that in these acute affections of the brain, that the fomentations acted much more beneficially as a revulsive, than the practice of blisters to the extremities in such cases, as the cutaneous irritation of the blisters being easily transmitted to the brain, which is already the affected organ, was injurious. I am happy to say I have seen the truth of this remark fully verified.

CASE II. Margaret, sister to Rose, aged seventeen years, was seized immediately after eating, with vomiting and burning pain in stomach, faintness, skin cool, pulse quick and small, no convulsions, intellect clear; her symptoms, which were not as violent as her sister's, were relieved by an emetic of zinc. Twelve ounces of blood from epigastrium by cups; warm fomentations to epigastrium; iced gum water frequently during the night.

5th, 7 o'clock, A. M. Has had a little sleep during the night; does not complain of any pain in stomach, but of much head-ache; intellect clear; bowels torpid; skin comfortable, and of the natural temperature; pulse 80. *R.* *Ol. ricini*, ℥ss. 6 o'clock, P. M. Feels much better; head relieved; bowels well evacuated; stools black and offensive; pulse natural, 76.

6th. Convalescent; swelling of the face, especially of the eyelids; joints of fingers much swollen.

CASE III. Maria, aged six years, sister to the above, was attacked in like manner after eating a small portion of the soup; an emetic of zinc, with warm water, quickly relieved her.

5th. Much better; no operation from bowels. *R.* *Ol. ricini*.

6th. Convalescent.

CASE IV. Margaret Wilson, aunt to the above, aged fifty years, plethoric, was severely attacked after eating, with vomiting and purging, burning pain in stomach, constriction across the chest, great arterial excitement, pulse slow, full, and irregular, difficult and painful micturition, stools black and very offensive, burning pain at the anus. *R.* Warm water, which evacuated the stomach well; six ounces of blood from epigastrium by cups, twelve ounces from arm; warm fomentations to epigastrium; iced gum water frequently.

5th, 7 o'clock, A. M. Had a little sleep; feels much relieved; purging and vomiting arrested; complains of no pain in stomach; pulse regular and soft; experiences much difficulty and pain in passing her urine; free discharge of

blood from uterus during the night, which she says is a return of her menstrual discharge, although she has not had a return for five years; the discharge resembled the menstrual blood in appearances; complains of vertigo and headache. *R.* Pul. rhei. and cal. mag. fomentations to epigastrium and abdomen.

6th. Rested well all night; feels much better; burning when passing urine not so great; discharge continues, but in small quantities; head relieved; medicine operated well.

7th. Convalescent; slight discharge from uterus; swelling of face and joints. This case differs from the others in many of the symptoms, and points out clearly the different effects of the same substance on different constitutions; this woman being very plethoric, the arterial system was most disturbed; the pulse, which in the other cases was quick and small, was in this case full and slow; the bowels were much affected; in the others they were torpid. The urinary organs and the uterus were also affected. Christison says urinary symptoms are seldom present, unless the lower bowels are likewise strangely irritated.

CASE V. Louisa Richardson, negro woman, aged forty years, delicate constitution, was seized about an hour after eating with vomiting and violent retching, faintness, burning pain in stomach, pulse small and quick; she was relieved by an emetic of zinc, with warm water drank freely; warm fomentations to epigastrium; iced gum water.

5th. Rested badly; complains of no pain, but great weakness; pulse very small and quick; had three stools during the night, which were black and very offensive. *R.* Ol. ricini, $\frac{3}{4}$ ss.

6th. Feels much better; oil operated well; pulse more natural.

7th. Convalescent, attended with troublesome palpitation.

CASE VI. Ann, coloured girl, daughter to the above woman, aged eighteen years, was seized immediately after eating, with vomiting and retching, faintness, burning pain in stomach, pulse small and quick, skin cool, much headache. *R.* Twelve ounces of blood from epigastrium; emetic of zinc; iced gum water; warm fomentations to epigastrium.

5th. Feels better; symptoms relieved; bowels torpid. *R.* Ol. ricini.

6th. Convalescent, attended with swelling similar to the other cases, and also with sore throat.

CASE VII. Mary, sister to the above, coloured, aged fifteen years, was attacked immediately after eating, in a similar manner to her sister, and was relieved by the same treatment; her convalescence was attended with the usual swelling.

CASE VIII. Agnes, sister to the above, aged twelve years, remarked, after having taken a little of the soup, that it had a bitter taste, and refused to eat of it; she quickly vomited the little she had eaten, and was relieved without any serious symptoms.

CASE IX. James, brother to the above, aged eight years, refused also to eat the soup, on account of its having a bitter taste; he was but slightly affected.

CASE X. Maria, coloured, aged five years, was attacked with vomiting and retching immediately after eating a little of the soup; she was relieved by an emetic and warm water drank freely.

CASE XI. Mary Hamilton, coloured, aged thirty-five years, delicate constitution, also eat of the soup, and was violently attacked immediately after with vomiting and painful retching, burning pain in stomach, pulse weak, quick, and irregular; no purging. *R.* Six ounces of blood from epigastrium; emetic; iced gum water; fomentations to epigastrium.

5th. Relieved; bowels torpid. *R.* Ol. ricini. This woman was confined a few days before, and was in delicate health.

CASE XII. Ann, her daughter, aged four years, was also attacked with retching and vomiting; was relieved by an emetic; warm fomentations to epigastrium.

The symptoms of poisoning by arsenic were evident and well-marked in

these cases. In reviewing the cases in detail, we will find that violent irritation of the alimentary canal, especially of the stomach, with faintness and prostration, were the most prominent symptoms; in the case of Margaret Wilson, not only the whole alimentary canal was affected, but also the uterus and urinary passage; in this case the poison acted as a powerful emenagogue, causing a free discharge after a cessation of five years. "In many instances," says Bachmann,* "the urinary passages are affected, the patient being harassed with frequent, painful and difficult micturition, swelling of the penis, and pain in the region of the bladder, or if a female, with pain of the vagina and excoriation of the labia." It has been a matter of dispute, whether any effect from the poison during the act of swallowing is perceived by the patient; there is no doubt, says the same author, "that in the way in which arsenic is generally given, with a criminal intent, namely, mixed with articles of food, it seldom makes any impression at all upon the senses during the act of swallowing." In the cases of Agnes and James, both of them complained of a bitter taste when eating, so much so, that they eat very little of the soup. The secondary symptoms in these cases were well marked. I have often seen the same swelling of the face and joints, which I have noticed in all the cases, follow the continued use of Fowler's solution. As regards the period of attack, the symptoms came on in most of the cases immediately after eating. "In some instances the sickness and faintness, particularly when the poison was taken in solution, have begun a few minutes after it was swallowed."†

Treatment.—The stomach was freely evacuated by emetics of zinc and copious draughts of warm water. "The use of the stomach pump," says Christison, "although it has been applied to cases of poisoning by arsenic, does not seem to possess any advantage whatever over the natural efforts of nature, if seconded by copious draughts of liquids." Not believing in any antidote for arsenic, these were treated as cases of acute gastritis with signal benefit. The iced gum water sweetened, and given frequently, was very beneficial in calming the irritability of the stomach, and allaying the inordinate thirst which existed. It is not necessary for me to say any thing as regards the beneficial effects of local depletion in gastritis, as the advantages arising from it are daily experienced.

Chemical Analysis.—A portion of matter ejected from the stomach was carried to Messrs. Caullier and Harper, distinguished and highly deserving chemists of this city, who, after a minute examination detected arsenic by two different tests; first, reduction by which the metallic ring was beautifully exhibited; the second was Scheele's green.

It appeared on evidence at the trial, that a negro man, living on the same premises with these persons, and had had a quarrel with them a few days previous; on Sunday he went into the kitchen, and not seeing any persons near him, he deposited arsenic in the soup, a large quantity of which was found in his possession; he was found guilty and executed.

Charleston, July 24th, 1834.

Description of a New Form of the Stomach Pump. By P. B. GODDARD, M. D. of Philadelphia.—This pump consists of two parts, one of which I shall call the valve box, the other is an ordinary syringe, of good construction, to which the valve box is screwed when in use.

The valve box is a cylinder of metal, containing ovoidal or egg-shaped cavities, equally distant from the centre of the cylinder; at this point a pipe enters, which, when screwed on to the syringe, opens a communication between its cavity and these two cavities in the valve box. Near each end of the cylinder, a short and slightly conical tube projects laterally, to which a flexible tube is to be fastened, and which causes a communication between the flexible tube and the cavity in the valve box. Each of these cavities contain a bullet accu-

* Bachmann on Poison.

† Christison.

rately turned, so as to fit the orifices of the tubes, entering into it, and acting as a valve. It will be seen by reference to Fig. 1, (which represents a section of the valve box,) that if the valve box be held vertically, and the syringe screwed on to it, the bullet in the upper cavity will fall upon the orifice of communication between it and the body of the syringe, whilst the bullet in the lower cavity, will in like manner lie upon the orifice of the tube leading externally. If the lower tube be now immersed in water, and the piston of the syringe be drawn out, it will be evident that the body of the syringe will be filled with water from the lower tube. If now the piston be pressed home, the water will pass out of the upper tube; the bullet in the lower cavity preventing its escape there, just as the bullet in the upper one prevented the entrance of air before. It will then always pump water, or any other fluid, from the lower tube to the upper.

If the position of the valve box be now reversed, and the end which was above be placed below, the bullets will fall by their own gravity into the opposite ends of the cavities, and the instrument will act as it did before, viz. pumping from the lower orifice to the upper, although the relative position of the tubes has been reversed.

To use this instrument, the valve box must be held in nearly a vertical direction. A long flexible tube being passed into the stomach, is attached to one of the short conical tubes, say the upper, and a short tube leading to a basin is then fastened to the lower one. The basin being filled with warm water, and the syringe put in action, the water will pass into the stomach and dilute the poison. When enough has passed in, the syringe is to be turned in the hand, so as to bring the tube down which was before above, without taking off the flexible tubes, or changing them in any way, and the syringe again put into action. The water will be pumped out of the stomach bringing the poison along with it.

The following are the chief advantages of this instrument. It is perfectly simple in its construction, and not liable to get out of order.

The directions for its use are easily understood, and as easily remembered.

After the flexible tubes are once adjusted, no alteration is required until the operation is finished.

When the instrument is once put in action, gallons of water may in a few minutes be passed through the stomach, thus washing away every trace of poison, and saving many a valuable life.

Explanation of the Figures.

Fig. 1.

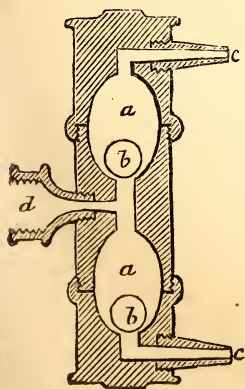


Fig. 1, Section of the valve box.

a a, Cavities for the bullets.

b b, Bullet valves.

c c, Tubes, to which are attached the flexible pipes.

d, Female screw by which the valve box is attached to the syringe.

Fig. 2.

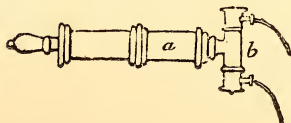


Fig. 2, Miniature view of the entire instrument.

a, The syringe.

b, The valve box.

Introduction of Air into the Veins. By BENJAMIN F. WING, M. D. (Read before the Boston Society for Medical Improvement.)—I have selected for the subject of my communication this evening, the introduction of air into the veins. My attention was first drawn particularly to the subject in consequence of having witnessed the death of an individual, which was supposed to have been caused by this accident while she was undergoing a surgical operation. Believing that as good an understanding of it might be obtained by interrogating nature through a series of experiments, as by studying the different authors who have written upon it, I undertook the following experiments.

EXP. I.—The external jugular vein of a full-sized rabbit was laid bare for some distance, and a branch of it selected for the insertion of a tube, that the current of blood through the principal vein should not be interrupted. By means of a small syringe the air was forced into the vein, and globule after globule was seen to enter the jugular and pass along with the blood, producing in the vicinity of the heart a slight gurgling noise. This organ immediately testified its presence by violent action for the space of about one minute, when it suddenly ceased to act. The animal made a few convulsive struggles, uttered a cry, gasped at intervals of some seconds, and expired.

An examination of the body was made twenty minutes after death. The muscles contracted under the stimulus of the knife. The brain presented no uncommon appearance. Its blood-vessels were not engorged, nor was any air discovered in them. The lungs were of their ordinary appearance, filling the cavity of the thorax, but immediately collapsing on the admission of air. On laying open the pericardium, the coronary vessels of the heart were perceived much injected. The right auricle and ventricle, together with the *venæ cavæ*, were distended with air mingled with blood in a semi-coagulated state. In the left auricle was found a little blood with a small portion of air. The corresponding ventricle was entirely empty.

The six succeeding experiments were tried upon other rabbits, varying the quantity of air from a volume equal to one to that of three fluid drachms. The results being similar to the one described, it appears unnecessary to state the particulars attending each case. I shall therefore pass on to the relation of some that were tried upon larger animals, where the quantity of air in proportion to their size could be more easily regulated.

EXP. VIII.—Air was gradually thrown into the jugular vein of a small-sized sheep, in a manner similar to that described in Experiment I., until the quantity equalled the volume of a fluid ounce. The time occupied did not vary far from ten minutes. The gurgling noise noticed in the first experiment, slight difficulty of respiration, together with gentle struggles indicative of suffering, followed each movement of the piston forcing the air into the vein. After these symptoms subsided, the vein was secured and the animal released. It immediately manifested a disposition to eat, sought its fellows, and mingled with the flock.

EXP. IX.—In this experiment double the quantity of air was used. The symptoms differed only in intensity. They speedily subsided, and the sheep, after being released, could not be distinguished by any peculiarity of manner.

EXP. X.—A volume of air equal to three fluid ounces was injected with such rapidity, that the globules were seen constantly passing through the jugular vein towards the heart. In this case much disturbance occurred. The animal evinced much suffering, the struggles approached convulsions, and the respiration became very difficult. After an interval of fifteen or twenty minutes of doubt as to the result, the symptoms gradually subsided. The sheep, when loosed from its bonds, could scarce support itself, but at length it walked away.

On the following day the three sheep subjected to experiments presented no peculiarity of manner. One was slaughtered in the usual way. No air was seen to escape with the blood, nor was any coagulum found in the heart. The lungs were of their ordinary appearance. In fact, I could not discover any

difference between those that were subjected to the experiments and those that were not.

Exp. XI.—In this instance the precise quantity of air could not be determined. It amounted at least to a volume equal to six fluid ounces. It was injected as expeditiously as possible, and its effects were immediately apparent. The heart palpitated violently a short time, then suddenly ceased to convey any sound to the ear; convulsions and gaspings were soon followed by a suspension of all signs of animation. The jugular vein that was dissected of its integuments became enormously distended, and the contents apparently stagnant. Under the conviction that the animal had become a victim to the experiment, the jugular was freely opened, and blood mingled with air was freely discharged. After a considerable quantity was evacuated, the sheep again respired, and the heart resumed its action. It was finally killed by opening the carotid artery. In this case some frothy blood was found in the right side of the heart, and the muscles presented an unusual redness, in consequence of a retention of blood in the capillary vessels.

The result of the eighth, ninth, and tenth experiments, show that air when admitted into the veins, although producing derangement in the functions, yet does not necessarily cause immediate death; but that the symptoms will gradually subside, and the organs resume their ordinary functions, provided the quantity is not too great in proportion to the size of the animal. But when this is carried beyond a certain point, the seven first experiments show as clearly that death will ensue. The last experiment may be considered doubtful in its effects; till, until the opening of the jugular, the symptoms were as strongly marked as in the cases where death was undoubtedly caused by the air.

By reference to these experiments it will be seen, as would naturally be inferred, that the first evidence of the presence of air is disturbance in the heart, increasing until its action is entirely suspended,—not by a gradual diminution of its power, rendering the pulsations weaker and weaker, but suddenly stopped in its high tone of action. Difficult respiration succeeds the tumultuous action of the heart, and increases to gasping at lengthened intervals, until this function also ceases. The muscular system is, to all appearance, at first only excited to increased action by the pain endured, nor does this action differ from that which is testified by the animal when an incision is made preparatory to the experiment until the animal approaches the agonies of death, when it becomes universally spasmodic.

It is necessary for the explanation of these vital phenomena, to suppose that the air arrives at each organ before any aberration of function is manifested—or cannot they be more satisfactorily accounted for, by referring the first impression to the heart, where we know the air arrives, and the other effects to the functional dependence or sympathetic relation that exists between the heart, lungs, and brain? Can we not suppose that the air impairs the power of circulation, first by distending the heart with its own volume, and secondly by causing an imperfect closure of the valves, and thus permitting a reflux of blood at each contraction of the ventricle, which causes in its turn an increased disturbance, until it goes beyond the power of reaction to overcome?

I am aware the subject deserves a more varied and extensive course of experiments; but as circumstances do not permit me to continue my researches at present, I must beg leave to offer you these first fruits of my labour.—*Boston Med. and Surg. Journ.* May 14th, 1834.

Luxation of Dentatus on Third Vertebra of the Neck.—The following interesting example of this is related by Dr. A. J. SPENCER, of Ticonderoga, in our cotemporary the *Boston Med. Surg. Journ.* Vol. X. No. 11.

E. D., aged 50, a man of hale constitution and robust, in making an effort to scale a board fence, was suddenly precipitated backwards to the ground; striking first upon the superior and anterior portion of the head, which luxated the den-

tatus anteriorly on the third cervical vertebra. He was at length discovered, and taken in, (as the patient said,) after he had lain nearly an hour, in a condition perfectly bereft of voluntary motion; but being present I did not even suspect that the power of sensation was also gone, until the patient, (whose speech remained almost or quite perfect, and who was uncommonly loquacious at that time,) said, did he not know to the contrary, he should think he had no body. His flesh was then punctured, and sometimes deeply—even from the feet to the neck; but the patient gave no evidence of feeling, and when interrogated, answered that he felt nothing; “and,” added he, “I never was more perfectly free from pain in my life,” but he remarked that he could not live, and accordingly sent for his family, twelve miles distant, and arranged all his various concerns in perfectly a sane manner.

The head was thrown back in such a position as to forbid his seeing his body. The pulse were much more sluggish than natural. Respiration and speech but slightly affected, but were gradually failing; but he could articulate distinctly until within a few minutes before his death. All the senses of the head remained quite perfect to the last. He died forty-eight hours after the fall.

Repeated attempts were made to reduce the dislocation, but the transverse processes had become so interlocked that every effort proved abortive. There was, undoubtedly, in this case, a perfect compression of the spinal marrow, which prevented the egress of nervous influence from the brain, while the pneumogastric nerve remained unembarrassed.

Case of Puberty and Pregnancy in a Girl of Ten Years of Age.—The following remarkable instance of this is related by Dr. D. ROWLETT, of Kentucky, in our cotemporary, the *Transylvania Journal of Medicine* for October, 1834.

“Sally Deweese, daughter of John Deweese, was born in Butler county, Kentucky, on the 7th of April, 1824. She was of the ordinary size, but her hips and breasts began to grow rapidly in a few weeks after she was born, and at twelve months of age she began to menstruate, and her hips and breasts had become so large as to be the objects of common remark; and as she took no pains to conceal her condition, her menstruating so young, became a fact of public notoriety, which continued regular till some time in the year 1833, when she became pregnant, and on the 20th day of April, 1834, she was delivered of a healthy female child, weighing seven and three-fourth pounds. Thus, at the age of ten years and thirteen days, she became the mother of a child of ordinary size; which, however, refused to suck her, and has been so far raised by the bottle. It is as healthy as is usual for children to be when raised from the bottle, and at the time of taking these notes it weighed eight and three-fourth pounds, and its mother weighed one hundred pounds. She was four feet seven inches high and had the countenance of a girl not exceeding her in years, but is as intelligent as girls generally are at her age.

“She was the fifteenth child her mother had given birth to, and was born when her mother was forty-five years of age. There had been no previous case of early puberty, or premature old age in either the family of the father or mother.

“Her father lived in Butler county until she was two years old, and then removed to the place on which he now lives, in Hickman county, one mile south of Mayfield’s Creek, and ten miles east of the Mississippi river, in latitude 36° 59’ N.; but I presume that latitude nor atmosphere has had any influence in this truly, (to me,) astonishing case. I think it is an over-match for the case of the Swiss girl spoken of by Haller.”

Ointment to Allay the Irritation of Hæmorrhoidal Tumours.—The following ointment is recommended by Dr. GEDDINGS in our esteemed cotemporary, the *North American Archives of Medical and Surgical Sciences*, No. 1, as affording great relief to the irritation of hæmorrhoidal tumours:—R. Pulv. carb. plumbi. ℥ss.; sulph. morph. gr. xv.; ung. stramon. ℥j.; ol. olivar. q. s. Ft. ung. part. applicand.

Powdered opium to the amount of a drachm may be substituted for the morphia, and if the dry white lead is not at hand, that which is ground in oil for the use of painters may be advantageously substituted. Sometimes a drachm of powdered galls may be added.

Contribution to the History of Vaccination. By the EDITOR.—The following fact, illustrative of the value of the Jennerian discovery, seems worth recording. A granddaughter of Mrs. M.'s was attacked in April, 1833, with small-pox, which ran its course and terminated favourably. About six weeks afterwards, viz. on the 1st of June, Mrs. M.'s daughter and grandson, (residing in the same house with the first patient,) the former aged thirty-five, the latter eighteen, were attacked with head-ache and fever, followed on the third day by an eruption which presented the ordinary features of varioloid, and ran the usual course of that disease. The eruptive fever in the grandson was very mild, but three pocks appeared on his face, and proportionally few on his body. On the tenth day he had sufficiently recovered to go abroad. The daughter had severe head-ache and high eruptive fever; had forty-three pocks on her face, and a proportional number on the rest of her person.

When children, the *grandson* had been *vaccinated*, and the *daughter* *innoculated*. The latter had the small-pox at that time, (as the mother informed me,) pretty severely, had several pocks; and subsequently she had had chicken-pox.

Bill of Mortality of Philadelphia for the year 1833. With remarks, by G. EMERSON, M. D.—The Philadelphia Bill of Mortality for the year 1833, compared with that of the previous year, shows a diminution in the deaths of no less than 2,259. Even when allowance is made for the mortality from the epidemic cholera of 1832, the amount from general diseases in 1833 falls short 1311.

There is a diminution in the mortality from every particular disease specified as contributing largely to the general mortality, with the exception of small-pox and varioloid, the deaths from which have increased within the past year.

The rate of diminution is particularly striking under the heads of Fever, Bowel Complaints, Inflammations and Measles, as will be evident from the following comparative statement:—

Deaths from Fevers,	-	-	Year 1833.	-	-	-	1832.
viz. Of all designations	-	-	360	-	-	-	768
Puerperal	-	-	32			8	
Eruptive	-	-	4			307	315
Scarlet	-	-	61	-	97		
							453
					263		263
Diminished mortality in the last year	-	-	-	-	-	-	190

The deaths from bowel complaints with the periods of life when they took place, stand as follows:—

	Under 1 year.	1 to 2	2 to 5	5 to 20	Children.	Adults.	Totals.
Diarrhœa	- 25	- 11	- 6	- 4	- 46	- 41	- 87
Dysentery	- 4	- 4	- 3	- 4	- 15	- 29	- 44
Cholera morbus and infantum	132	- 59	- 6	- 0	- 197	- 9	- 206
	161	74	15	8	258	79	337
Bowel complaints in 1831							522
do. do. 1832 (exclusive of epidemic cholera)							689
do. do. 1833							337

The number of deaths from the phlegmasia in the two last years are also strongly contrasted. The deaths from the respective inflammations were as follows:—

							Year	1833.		1832.
Lungs	-	-	-	-	-	-	-	166	-	225
Chest	-	-	-	-	-	-	-	17	-	19
Heart	-	-	-	-	-	-	-	2	-	4
Windpipe	-	-	-	-	-	-	-	3	-	0
Total in the cavity of the chest	-	-	-	-	-	-	-	<hr/> 188	-	<hr/> 248
Stomach	-	-	-	-	-	-	-	48	-	41
Bowels	-	-	-	-	-	-	-	135	-	125
Liver	-	-	-	-	-	-	-	18	-	21
Kidneys	-	-	-	-	-	-	-	2	-	1
Bladder	-	-	-	-	-	-	-	1	-	1
Total in the cavity of the abdomen	-	-	-	-	-	-	-	<hr/> 204	-	<hr/> 189
Brain	-	-	-	-	72	}	-	74	-	102
Spine	-	-	-	-	2	}	-	7	-	49
Various	-	-	-	-	-	-	-	<hr/> 473	-	<hr/> 588
										473
Diminution in 1833	-	-	-	-	-	-	-	-	-	<hr/> 115
							Year	1833.		1832.
Dropsy	-	-	-	-	-	-	-	80	-	115
do. in the head	-	-	-	-	-	-	-	170	-	187
do. in the breast	-	-	-	-	-	-	-	52	-	62
								<hr/> 302	-	<hr/> 364

The mortality from consumption and the other most fatal diseases compared with those of the preceding year stand thus:—

							Year 1833.		1832.
Consumption	-	-	-	-	-	-	650	-	681
Convulsions	-	-	-	-	-	-	266	-	342
Small-pox	-	-	-	-	-	-	156	-	37
Varioloid	-	-	-	-	-	-	12	-	6
Measles	-	-	-	-	-	-	1	-	118
Scarlet fever	-	-	-	-	-	-	61	-	307
Croup	-	-	-	-	-	-	95	-	110
Bronchitis	-	-	-	-	-	-	37	-	97
Apoplexy	-	-	-	-	-	-	55	-	78
Hooping-cough	-	-	-	-	-	-	53	-	58
<i>Births.</i>							1833		1832
Males	-	-	-	-	-	-	3,840	-	3,834
Females	-	-	-	-	-	-	3,802	-	3,419
							<hr/>		<hr/>
							7,642	-	7,253
Deaths	-	-	-	-	-	-	4,440	-	6,699
							<hr/>		<hr/>
Difference between the births and deaths	-						3,202	-	554

STATEMENT OF DEATHS,
With the Diseases and Ages, in the City and Liberties of Philadelphia, from the 1st of January, 1833, to the 1st of January, 1834.

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 year.	From 1 to 2.	From 2 to 5.	From 5 to 10.	From 10 to 15.	From 15 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	From 100 to 110.	Total.
Abscess	16	5	4	1	0	0	3	0	2	0	1	2	7	2	4	0	0	0	0	21
Apoplexy	34	21	2	1	2	1	0	0	0	0	3	8	12	7	8	11	3	0	0	55
Aneurism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Asphyxia	5	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Asthma	3	5	1	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	8
Atrophy	12	6	0	0	0	0	0	0	0	0	2	3	5	4	4	0	0	0	0	18
Bronchitis	23	14	15	11	17	6	1	2	0	0	2	1	2	2	3	0	1	0	0	37
Burns	14	16	11	12	1	7	9	3	2	1	5	1	1	0	0	0	0	0	0	30
Consumption	342	308	54	50	19	12	18	7	13	35	186	157	97	48	46	9	2	1	0	650
Convulsions	147	119	130	96	154	32	28	9	1	2	13	11	8	4	1	0	1	0	0	266
Croup	53	42	50	41	38	22	27	4	0	0	1	1	1	0	0	1	0	0	0	95
Cancer	5	26	1	3	0	0	3	1	0	0	1	7	8	6	3	1	1	0	0	31
Catarrh	14	12	13	11	16	7	1	0	0	0	0	0	1	0	0	1	0	0	0	26
Congestion of the Lungs	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Brain	4	3	2	3	4	0	0	1	0	0	1	1	0	0	0	0	0	0	0	7
Concussion of the Spinal Marrow	10	12	6	11	5	2	5	4	1	0	1	1	0	1	2	0	0	0	0	22
Brain	2	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
Compression of the Brain	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Contusion	2	1	0	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
Colic	7	1	2	0	0	0	0	0	0	0	3	1	0	0	2	0	0	0	0	8
Child-Bed	0	6	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	6
Carics	3	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3
Casualties	16	5	3	2	0	2	0	0	2	1	6	4	3	1	0	2	1	0	0	21
Cachexia	2	6	1	2	2	1	0	0	0	0	1	1	0	1	1	0	0	0	0	8
Cephalia	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cholera Infantum	97	100	97	100	132	59	6	0	0	0	0	0	0	0	0	0	0	0	0	197
Morbus	3	6	0	0	0	0	0	0	0	0	0	1	2	3	2	0	1	0	0	9
Dropsy	42	38	7	4	1	0	3	2	2	3	7	13	10	21	11	4	3	0	0	80
in the Head	87	83	87	83	60	51	37	18	2	2	0	0	0	0	0	0	0	0	0	170
Breast	29	23	4	6	2	1	3	0	2	2	3	8	7	9	3	8	4	0	0	52
Debility	100	89	76	69	135	6	2	2	0	2	3	4	11	5	4	8	8	1	0	189

(Table Continued.)

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 year.	From 1 to 2.	From 2 to 5.	From 5 to 10.	From 10 to 15.	From 15 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	From 100 to 110.	Total.
Dysentery	25	19	8	7	4	4	3	2	2	0	6	5	2	8	3	4	1	0	0	44
Drowned	53	2	15	1	0	1	3	8	2	2	11	25	2	0	0	1	0	0	0	55
Decay	2	4	1	0	1	0	0	0	0	0	1	1	1	0	1	0	0	0	0	6
Dyspepsia	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Dyspnœa	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Diarrhœa	45	42	21	25	25	11	6	2	1	1	6	8	5	6	5	7	3	1	0	87
Drinking Cold Water	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Drunkenness	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Disease of Brain	13	5	9	2	4	3	3	0	1	0	1	3	1	2	0	0	0	0	0	18
Heart	11	13	2	2	0	0	0	1	0	3	2	4	2	2	5	2	0	0	0	24
Hip	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Throat	1	0	1	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1
Chest	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Liver	1	3	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	4
Stomach	3	1	0	0	0	0	0	0	0	0	1	1	1	0	2	0	0	0	0	4
Spine	4	1	2	2	0	1	1	0	0	0	1	1	0	1	0	0	0	0	0	7
Bowels	4	1	2	1	3	0	1	0	0	0	1	0	0	1	0	0	0	0	0	5
Windpipe	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nerves	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Eyes	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Uterus	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Glands	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Neck	0	1	0	1	0	1	0	0	0	0	2	0	0	1	0	0	0	0	0	4
Enlargement of the Heart	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Liver	0	1	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	0	1
Erysipelas	9	8	3	5	6	0	0	2	0	0	0	0	2	0	1	1	2	0	0	17
Eruptions	4	4	4	4	4	1	0	0	2	0	0	3	2	0	0	0	0	0	0	8
Epilepsy	9	6	3	1	2	0	0	0	0	0	4	2	0	1	0	0	0	0	0	15
Effusion on the Brain	3	2	2	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	5
Lungs	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
Excess of Heat	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Fever	26	20	11	6	5	3	3	4	1	1	9	5	6	1	4	3	1	0	0	46
Typhus	47	37	5	9	0	0	1	3	5	5	24	21	13	6	4	1	1	0	0	84

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(Table Continued.)

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 year.	From 1 to 2.	From 2 to 5.	From 5 to 10.	From 10 to 15.	From 15 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	From 100 to 110.	Total.
Irritation of the Bowels	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Injury of the Perinæum	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Spine	-	-	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Jaundice	-	6	3	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Landanum to excess	-	7	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Liver Complaint	-	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Marasmus	-	41	41	49	57	23	0	0	1	0	0	0	0	0	0	0	0	0	0	90
Mania	-	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Puerperal	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
a Potu	-	103	20	0	0	0	0	0	0	0	27	35	6	0	0	0	0	0	0	123
Mortification	-	9	11	3	0	0	0	0	0	0	51	3	0	0	0	0	0	0	0	20
Malformation	-	5	3	3	0	1	0	2	0	0	3	0	0	0	0	0	0	0	0	8
Murdered	-	3	5	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	5
Measles	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mumps	-	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Necrosis	-	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Old Age	-	16	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61
Ossification of the Heart	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Aorta	-	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Phlegmasia Dolens	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Palsy	-	18	22	1	1	0	0	1	0	1	1	5	1	5	11	7	5	0	0	40
Pleurisy	-	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Poisoned	-	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Perished from Exposure	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Polypus of the Nose	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rheumatism	-	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Rupture of Blood-vessel	-	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Heart	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Suffocation	-	3	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Sudden	-	12	11	2	5	0	0	0	0	0	1	3	0	0	0	0	0	0	0	23
Scrofula	-	3	9	3	7	0	0	0	0	0	1	3	0	3	1	0	0	0	0	12
Syphilis	-	4	3	4	1	1	0	2	1	1	2	1	0	0	0	0	0	0	0	7

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Of the above there were males of 20 years and upwards, 1,151; under 20 years, 1,261; females of 20 years and upwards, 944; under 20 years, 1,084.

There were 406 returns received at the Health Office, of persons who died in the Alms-House of the City and Districts during the year; 478 people of colour are included in the total number of deaths.

Agreeable to returns made at the Health Office and collected from 157 Practitioners of Midwifery, there have been born in the City and Liberties, from the 1st of January, 1833, to the 1st of January, 1834, 3,840 male, and 3,802 female children, making the total number of births 7,643, leaving a difference between the births and deaths of 3,202.

Deaths in each Month of the above period.

		Adults.	Children.	Total.
January	- - - -	203	- 192	- 395
February	- - - -	152	- 168	- 320
March	- - - -	180	- 186	- 366
April	- - - -	175	- 148	- 323
May	- - - -	178	- 179	- 357
June	- - - -	141	- 209	- 350
July	- - - -	224	- 362	- 586
August	- - - -	162	- 240	- 402
September	- - - -	167	- 180	- 347
October	- - - -	199	- 161	- 360
November	- - - -	166	- 149	- 315
December	- - - -	152	- 167	- 319
		2099	2341	4440

By order of the Board of Health,

WM. A. MARTIN, *Clerk.*

Health Office, Philadelphia, January 1st, 1834.

Salivation Arrested by Emesis.—DR. EZRA READ, of Cincinnati, has communicated to our cotemporary, the *Western Medical Gazette*, (August, 1834,) five cases of salivation promptly arrested by emesis. The emetic employed in three of the cases was ipecacuanha.

Paxton's Anatomy.—The second Volume of the Introduction to the Study of Human Anatomy, by JAMES PAXTON, with additions by WINSLOW LEWIS, JR. M. D. has lately been issued from the press of Messrs. Allen and Ticknor, of Boston. This is a very useful elementary work; the text is concise and perspicuous, and is illustrated by numerous, and for the most part well-executed wood cuts. The manner in which this work has been "got up" is highly creditable to the publishers, and worthy of all praise.

University of Pennsylvania.—We are happy to announce the appointment of WILLIAM P. DEWEES, M. D. to the chair of Obstetrics and Diseases of Women and Children in the University of Pennsylvania in the place of THOMAS C. JAMES, M. D. resigned.

THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

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- JOHN C. WARREN, M. D. *Professor of Anatomy and Surgery in Harvard University, Boston.*
- THOMAS H. WRIGHT, M. D. *Physician to the Baltimore Alms-House Infirmary.*

TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. REYNOLDS, SOMERVAIL, MALONE, SMART, ELKINGTON, RODRIGUE, and WILLIAMS.

Several articles intended for this No. have been excluded for want of room, although we have exceeded our limits by twelve pages; among others, a notice of Holland's Principles of Medicine.

The following works have been received:—

The Anatomy and Physiology of the Liver. By FRANCIS KIERNAN, Esq. Member of the Royal College of Surgeons; late Teacher of Anatomy. From the Philosophical Transactions. London, 1833. (From the author.)

On some Points connected with the Pathology of Puerperal Fever. By ALEXANDER JOHN HANNAY, M. D. Member of the Faculty of Physicians and Surgeons, Glasgow; Lecturer on the Theory and Practice of Physic. Glasgow, 1827. (From the author.)

Considérations sur la Nature et le Traitement de Choléra Morbus, Suivies d'une Instruction sur les Preceptes Hygiéniques contre cette Maladie; par le Chevalier J. R. L. DE KERCKHOVE DIT DE KIRCKHOFF, M. D. &c. &c. &c. Anvers, 1833. (From the author.)

On the Influence of Atmosphere and Locality; Change of Air and Climate; Seasons; Food; Clothing; Bathing; Exercise; Sleep; Corporeal and Intellectual Pursuits, &c. &c. on Human Health, constituting Elements of Hygiene. By ROBLEY DUNGLISON, M. D. Professor of Materia Medica, Therapeutics, Hygiene, and Medical Jurisprudence in the University of Maryland, &c. &c. Philadelphia, Carey, Lea & Blanchard, 1835. (From the author.)

Systematical Anatomy, or Human Organography, in Synoptical Tables, with numerous Plates. For the use of Universities, Faculties and Schools of Medicine and Surgery, Academies of Painting, Sculpture, and the Royal Colleges. By the Chevalier J. SARLANDIERE, M. D. Member of the Royal Academy of Madrid, and of the Medical Society of Emulation of Paris, &c. &c. Translated from the French by W. C. ROBERTS, M. D. Member of the Medical Society of the City and County of New York. New York, lithographed and published by J. & E. Bisbee, 116, Franklin street, New York, 1835. (From the publishers.)

The Principles of Diagnosis. By MARSHALL HALL, M. D., F. R. S. Second edition, entirely re-written. New York, D. Appleton & Co. 1835. (From the publishers.)

An Address introductory to a Course of Lectures delivered in Clinton Hall, New York, November, 8th, 1834. By GUNNING S. BEDFORD, M. D. Lecturer on Obstetric Medicine, and the Diseases of Women and Children. Second edition, New York, 1835. (From the author.)

An Introductory Lecture delivered to the Medical Class of the University of Virginia at the Commencement of the Course on Anatomy, Physiology, and Surgery. By AUGUSTUS L. WARNER, M. D. Professor of Anatomy, Physiology, and Surgery. Published by the Class. Charlottesville, 1834. (From the author.)

Outlines of Human Physiology; designed for the Use of the Higher Classes in Common Schools. By GEORGE HAYWARD, M. D. Boston, 1834, Marsh, Capen & Lyon. (From the author.)

A Treatise on Tubercular Phthisis, or Pulmonary Consumption. By JAMES CLARK, M. D., F. R. S. Physician in Ordinary to their Majesties the King and Queen of the Belgians. From the Cyclopedia of Practical Medicine. London, 1834. (From the author.)

Physiologisch-chirurgische Beobachtungen bei Cholera-kranken. Von J. F. DIEFFENBACH, D. M. & C. &c. &c. (From Dr. Von dem Busch.)

A catalogue of the officers and students of Dartmouth College, October, 1834. Newport, N. H. 1834.

A Practical Treatise on Medical Jurisprudence, with so much of Anatomy, Physiology, Pathology, and the Practice of Medicine and Surgery, as are essential to be known by Members of Parliament, Lawyers, Coroners, Magistrates, Officers in the Army and Navy, and Private Gentlemen; and all the Laws relating to Practitioners; with Explanatory Plates. By J. CHITTY, Esq. Barrister at Law. First American edition, with Notes and Additions adapted to American Works and Decisions. Part I. Carey, Lea & Blanchard, 1835. (From the publishers.)

De Thalamo et origine Nervi Optici in Homine et Animalibus Vertebratis. Auctor S. A. W. STEIN. Hauniæ, 1834. (From Dr. Otto.)

Dissertatio de Effectibus Iodii in Organismum Humanum usuque ejus Medico. Auctor F. A. ULDALL. Hauniæ, 1833. (From the author.)

De Inflammatione Corneæ Transparentis Scrofulosa. Auctor F. F. MOURIER. Hauniæ, 1833. (From Dr. Otto.)

De Dentitione Infantili cum Adjuncta Disquisitione de Spasmodis et Antispasmodicis. Auctor F. A. ULDALL. Hauniæ, 1833. (From Dr. Otto.)

Medico-Chirurgical Transactions, Vol. XVI. Part II. and Vol. XVII. (From the Medico-Chirurgical Society of London.)

A Treatise on the Urethra; its Diseases, especially Stricture, and their Cure. By BENJAMIN PHILLIPS, author of a Series of Experiments made to Demonstrate that Arteries may be obliterated without Ligature, Compression, or the Knife. London, 1832. (From the author.)

The substance of a Lecture designed as an Introduction to the Study of Anatomy, considered as the Science of Organization; and delivered at the re-opening of the School, founded by the late Joshua Brooks, Esq. in Blenheim street, October 1st, 1833. By THOMAS KING, M. D. Member of the Royal College of Surgeons; Surgeon to his Excellency the French Ambassador; Lecturer on Anatomy and Surgery, &c. &c. London, 1834. (From the author.)

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The Homœopathic Medical Doctrine, or "Organon of the Healing Art," a new System of Physic. Translated from the German of S. Hahnemann, by Charles H. Devrient, Esq. with notes by Samuel Stratten, M. D. Dublin, 1833, 8vo. pp. 332 - - - - -	460
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Communications have been received from Drs. HORNER, PORTER, OSGOOD, W. G. SMITH, GRAGIN, HALLOWELL, METTAUNER, SOUTHWORTH, WEEMS, ROBERTS, and WEBBER.

The following works have been received:—

A System of Dental Surgery. In three parts. 1st. Dental Surgery as a Science. 2d. Operative Dental Surgery. 3d. Pharmacy connected with Dental Surgery. By SAMUEL SHELDON FITCH, M. D. Surgeon Dentist. Second edition. Philadelphia, 1835, Carey, Lea & Blanchard. (From the publishers.)

Illustrations of Surgical Anatomy, with explanatory references; founded on the work of M. Blandin. By JOHN G. M. BURT, Surgeon Extraordinary to the King in Scotland. Second edition. Glasgow. (From the author.)

A Synopsis of the Flora of the Western States. By JOHN L. RIDDELL, A. M. Lecturer on Chemistry; Member of the Historical and Philosophical Society, of Ohio, &c. &c. Cincinnati, 1835. pp. 116. 8vo. (From the author.)

Chemical and Medical Researches on Kreosote, its Preparation, Properties, and Use. By E. MIGUET, M. D. &c. Translated from the French. By WILLIAM WETHERILL, M. D. Philadelphia, 1835. (From the translator.)

Catalogue of the Trustees, Faculty, and Students of the Medical Department of the University of Maryland. Baltimore, 1835. (From Professor Dunglison.)

Dissection of the Eye of the Streaked Bass, *Perca nobilis vel Mitchelli*, with Observations on the Accommodation of the Eye to Distances. By W. C. WALLACE, M. D. Surgeon to the New York Institution for the Blind. (From the author.)

A Catechism of Medical Jurisprudence; being principally a Compendium of the Opinions of the best Writers upon the subject. With a Preliminary Discourse upon the importance of the Study of Forensic Medicine. Designed for Physicians, Attornies, Coroners, and Jurymen. By STEPHEN W. WILLIAMS, M. D. Late Professor of Medical Jurisprudence in the Berkshire Medical Institution, &c. Northampton, 1835. (From the author.)

Introductory Lecture on the Climate and Salubrity of New Orleans; and its Suitability for a Medical School. By EDWARD H. BARTON, M. D. Professor of Materia Medica, Therapeutics, and Hygiene. Published at the request of the Faculty. New Orleans, 1835. (From the author.)

Journal of the Proceedings of a Convention of Physicians of Ohio, held in the City of Columbus, on the 5th of January, 1835. Cincinnati, 1835. (From Dr. William M. Awl, Corresponding Secretary.)

A Catechism of Phrenology, illustrative of the Principles of that Science. By a Member of the Phrenological Society of Edinburgh. From the sixth Glasgow edition. Philadelphia, Carey, Lea & Blanchard, 1835. (From the publishers.)

Introductory Address delivered at the opening of the Medical College of the State of South Carolina, November 10th, 1834. By JAMES MOULTRIE, M. D. Published at the request of the Class. Charleston, 1834. (From Professor Frost.)

Introductory Address on the Establishment of the Medical College of Louisiana. By THOMAS HUNT, M. D. Professor of Anatomy and Dean of the Faculty. New Orleans, 1835. (From the author.)

Report on the New Map of Maryland, and of the Geologist appointed to make a Geological Survey of the State. (From Professor Ducatel.)

An Address delivered before the Young Men's Temperance Society in

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Archives Générales de Medecine, February, March, April, May, June, July, August, September, October, November, 1834. (In exchange.)

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Journal Hebdomadaire des Progrès des Sciences et Institutions Médicales, August, September, October, November, December, 1834. (In exchange.)

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Wissenschaftliche Annalen der Gesammten Heilkunde. Herausgegeben von Dr. J. F. C. HECKER, Professor der Heilkunde an der Friederich-Wilhelms-Universität zu Berlin, March, April, May, June, July, August, September, October, November December, 1833, January, February, March, April, May, 1834. (In exchange.)

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The Medical Magazine, February, March, April, 1835. (In exchange.)

Western Medical Gazette, January, February, 1835. (In exchange.)

Boston Medical and Surgical Journal, Vol. XII. No. 1 to 11. (In exchange.)

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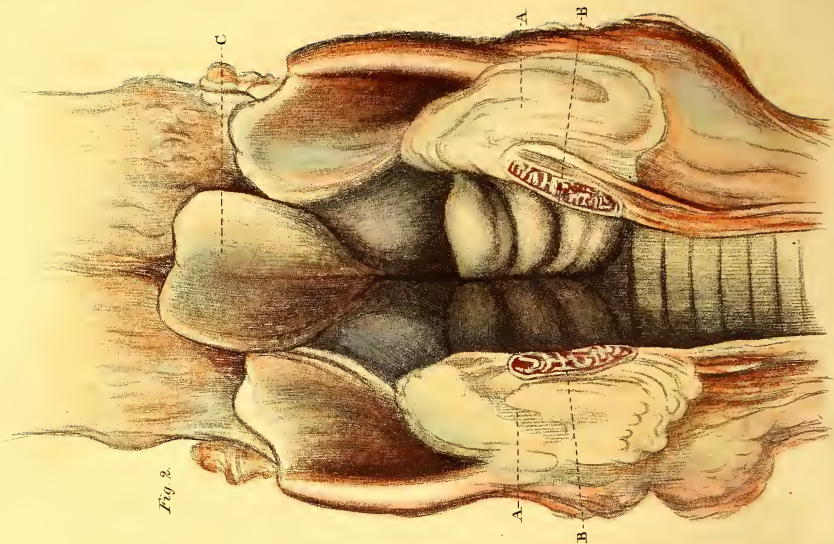
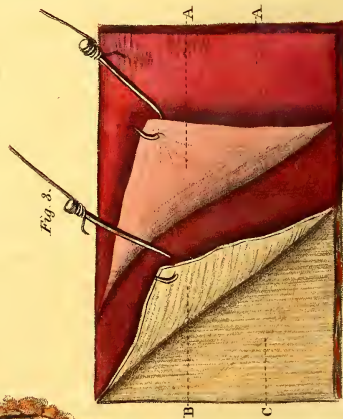
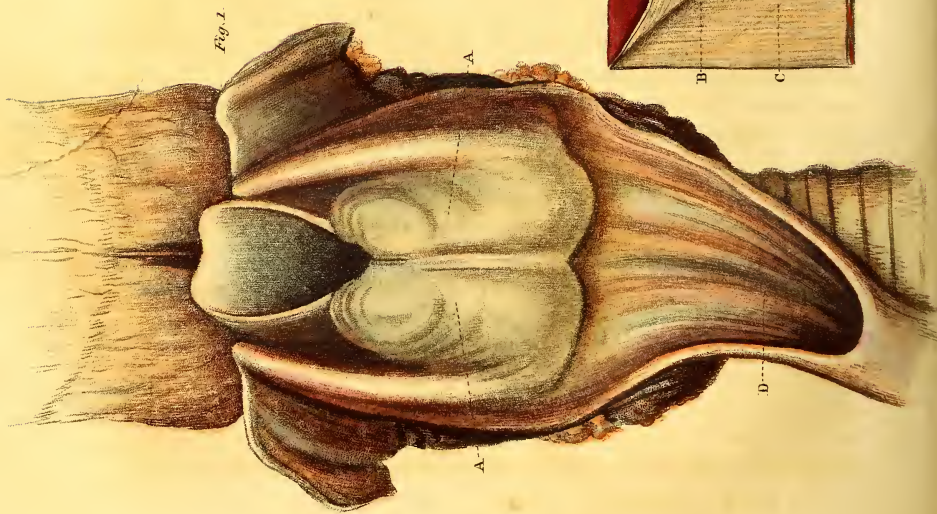
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THE
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MEDICAL SCIENCES.

ART. I. *Obscure Pericarditis—Dilatation of the Heart—Peculiar Species of Tumour in the Right and Left Ventricles, and Right Auricle—Edema of the Fauces and Larynx, and Glottis—Death from Suffocation.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania. [With a coloured Plate and two wood-cuts.]

MR. —, aged fifty-four years, temperament sanguine nervous; previous health generally good; had suffered in former years attacks of acute inflammation of abdominal viscera; had been actively engaged in business for many years, and exposed to great mental anxiety; habituated to the moderate but daily use of spirituous drinks. In the commencement of January, 1834, he returned from a fatiguing journey of twelve hundred miles, during which he was exposed to severe cold, especially in crossing the Alleghany ridge. From the state of the roads, the stages could not run, and anxious to reach home, he travelled across the mountains in an open mail cart. He suffered severely from the cold and violent jolting, the vehicle being without springs.

After reaching home, he complained of excessive fatigue, kept in bed for two days, took some medicine without advice, and resumed his accustomed pursuits. He kept about, complaining frequently of shortness of breath when ascending stairs, of being easily fatigued, and often sighed deeply. This last circumstance was attributed to mental causes, at the time, as his affairs were not in a very satisfactory state. On the 29th of January, I was requested to see him.

The night previous he had been out on a visit, complained of being cold and fatigued when walking home, and in the morning felt too unwell to get up. I found him complaining of cough, with sense of oppression in the chest; he had no heat of skin; the face peculiarly pallid; pulse exceedingly feeble and frequent; the chest every where resonant on percussion; the respiratory murmur pure in every part of the chest, gave no indication of pulmonary affection; the action of the heart rapid, its sound feeble. A blister was directed to the chest, with a composing cough mixture.

The next day, 30th, he felt relieved; the oppression diminished.

February 1st.—Had passed a restless night; indescribable feelings in the chest; skin cool and shrivelled. Directed emulsion of assafoetida, with acetat. opii.

2d. Night again restless; skin cold, pallid, face waxy aspect; great anxiety; the chest again examined, furnished same pulmonary indications; the heart alone seemed affected; the pulse irregular, so rapid as scarcely to be counted; the sound of the heart feeble and indistinct; the organ appeared to labour; no morbid sounds; head remarkably clear; stomach in excellent state. In crossing the mountains he had used stimulants more freely than usual, and suspected his present exhaustion might proceed from their sudden withdrawal. The suggestion was adopted, and warm toddy, with carb. ammoniæ prescribed. 12 M. Same state. 3 P. M. Has rallied in some measure; skin warmer, and feels more comfortable. 8 P. M. Skin still warmer, dry; pulse has more force. Continue stimulants.

3d. Night more tranquil than preceding; had one sinking spell, almost approaching to fainting; examination of the chest presented some indications as before, both as to the lungs and the heart; has a sense of extreme prostration and debility. When lying with his head low, the face is purple, from the stagnation of the venous circulation; when it is elevated, it immediately becomes pallid. The veins of the extremities very much distended, and cannot be emptied by pressing upwards along their course. Senses and intelligence are perfect; stomach in excellent condition; bears the stimulants administered every half hour perfectly well; sinapism applied along the spine; blister over the region of the heart, and on the lower extremities; calomel gr. i. every hour. No change occurred during the day. When the stimulants are withheld, the sense of sinking and disposition to fainting comes on. The stimulants were administered every half hour. No other effect apparent than to obviate the tendency to fainting and sinking. At 10 P. M. Tinct. opii, gtt. xxv.

4th. In the night had one sinking spell: this morning pulse rapid,

irregular, and without force; hands purple; respiration made with considerable muscular effort; had a natural evacuation in the night; tongue moist and clean; sense of extreme exhaustion; mind clear; had the morning papers read to him; stimulants continued, with nourishing soups. 5 P. M. Had during the day several fainting and sinking spells; is then covered with cold sweats; pulse scarcely perceptible. The following mixture prescribed:—Sulph. quiniæ, gr. xij.; Elix. vit. ℥ss.; Syrup zingiberis, ℥ss.; Aq. fluvial, ℥iss.; one drachm every hour. Stimulants continued. 10 P. M. Appears to have rallied in some measure; fingers less purple; pulse more distinct.

5th. A more tranquil night; has a feeling of more force; circulation improved; had the newspapers read to him this morning; is constantly in semi-erect position supported by pillows; stimulants diminished one half; nourishing soups. 10 P. M. Has continued in better state during the day.

6th. Disturbed in the night by a fire that occurred in the vicinity; was much agitated, and lost his sleep; the disposition to sinking and fainting was renewed and increased; stimulants again resorted to and increased; had three passages during the day, each perfectly natural; rallied in the day, and had augmented thirst; stimulants withdrawn entirely, and small pieces of ice held in the mouth to allay thirst.

7th. Rested well; has more force; has used no stimulants during the night; tongue has become red, with white fur; thirst increased. In evening prostration; respiration laboured; pulse fluttering; solution of sulph. quiniæ and toddy renewed. 10 P. M. No improvement; carb. ammoniæ and wine-whey.

8th. Restless night; but little change; tongue moister; had three stools in night, all natural; pulse small, feeble, irregular; veins turgid with blood that cannot be forced along them; respiration hurried, and irregular; stimulants continued; frictions on the spine, with ol. succin. R. Spts. camph.; ol. terebinth and ol. succin. m. j. every two hours.

9th. Tolerable night; symptoms nearly the same; has appetite; stimulants withdrawn, except spts. Camphor, m. ij. every two hours. Evening. In same state.

10th. In the night became hoarse, with feeling of soreness in the throat; an obstruction there causes difficult respiration, and nearly prevents swallowing. On examining the throat, the whole fauces were tumid; the uvula swelled and thickened; the velum and soft palate pressed down like an inflated bladder; very slight redness; skin warmer than it has been, and pulse possess more force. Sinapised poultice applied to the external surface of the throat; gargle of infusion of Cayenne, and of a solution of iodine alternately used every

fifteen minutes; punctured the swelled and tumid velum; a thin fluid oozed from opening. 1 P. M. Difficulty of respiration and suffocated feeling increased; applied saturated solution of nitrate of silver to the fauces, and again punctured the swelling; swallowed some wine gruel with tolerable ease, and had appetite. 4 P. M. Swelling of fauces greatly augmented; respiration suffocating. The danger of suffocation had become so imminent I sent for a surgical friend to perform tracheotomy as the only recourse, and in the mean time punctured freely the tumour, filling up the fauces. A thin bloody fluid issued in large quantities, but without relief. Suffocation progressed every instant; longer delay was inadmissible, and with no other instrument than a pocket scalpel I attempted the operation. On making the incision through the skin, a thin bloody serous fluid was found existing in the cellular tissue, from which it discharged in a copious stream. A small opening only was accomplished in the trachea, into which the infiltrated cellular fluid was sucked in inspiration. Suffocation was completed, the patient's head fell over, the face bloated and blackened, and in a moment he expired. Half an hour only had elapsed since I had entered the room, so rapid had been the progress of the œdematous effusion.

The autopsy was performed by my friend, Dr. MUTTER, to whom I am indebted for the following statement of the condition of the organs.

Autopsy, twenty-four hours after death.—Present Drs. S. JACKSON and GODDARD.

Exterior.—The whole of the thoracic portion of the trunk anteriorly, and of the thoracic and dorsal portions posteriorly, as well as the superior extremities as far down as the elbows presented a singular mottled and speckled appearance. The discoloured spots which varied in size from a line or two in diameter up to that of a space some inches in extent, were of a mulberry red colour, and resembled very much the common petechial blotch. This peculiarity of the surface did not make its appearance until some hours after death, and (as we shall see directly,) depended upon the effusion of a *bloody serum* in the cellular tissue of these portions of the trunk; that of the dorsal region was owing also in part to the gravitation of the blood, and is generally present to a greater or less degree in almost all cases where the body has rested upon the back. Tympanitic distention of the abdomen existed to a trifling extent; considerable degree of embonpoint; small incision along the front of the larynx made in performing the operation of laryngotomy; no rigidity of the muscular system observed; little or no fœtor exhaled by the corpse.

Neck.—The anterior portion of the throat particularly presented the

mulberry red colour of the upper parts of the trunk. Upon making an incision through the integuments along the front of the larynx and trachea, in order to dissect out these organs, there occurred a copious flow of a *thin dark bloody serum*, contained in the cellular tissue. As we advanced in the dissection, the flow of this fluid became so copious as to materially retard the operation, and it was necessary at each stroke of the scalpel to apply the sponge. We found it diffused not only through the superficial cellular tissue, but also in the more deeply seated, even indeed down to the spine. In proportion as it escaped, the parts assumed a normal colour.

Larynx.—The cellular tissue of the larynx, both externally and internally, was œdematous to a great extent. Externally it was filled with the bloody serum already alluded to; internally with a transparent one. The internal œdema commenced at the apex of the epiglottis cartilage, and extended below the vocal cords, and varied in thickness from one to six lines. The areteno-epiglottoid doublings, and the cellular tissue surrounding the arytenoid cartilages, were the points at which the œdema was greatest. Such was the degree of their distention, that the superior orifice of the glottis was almost entirely closed up; (Plate I, Fig. 1, shows this condition of the parts very well,) laying open the larynx, we found the œdema so extensive, that the rima glottidis was *completely* closed by it, when the parts were put in situ. The ventricles of MORGAGNI were almost entirely obliterated, (see Plate I. Fig. 2, for a correct representation of the appearances presented by the larynx.) The lining membrane of both larynx and trachea, presented a perfectly healthy appearance. The fauces and soft palate were likewise perfectly normal. The cartilages also exhibited no marks of a pathological condition. The immediate cause of death in this case, was the condition of the larynx just described, which prevented the introduction of air in sufficient quantities into the lungs.

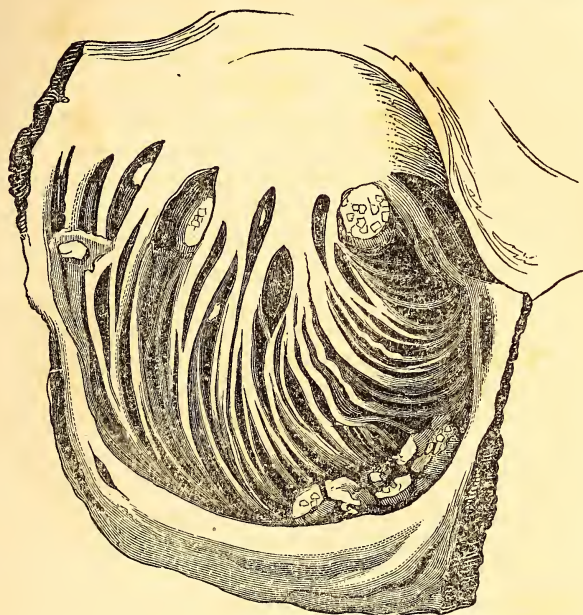
Thorax.—Finely developed, and well arched anteriorly; sound on percussion normal on both sides, with the exception of the anterior inferior portion of the left, where it was flat. Petechial appearance of the surface; costal cartilages ossified. The incision of the integuments was followed by a copious flow of bloody serum. Upon raising up the sternum and costal cartilages, the anterior mediastinum was found to contain some fatty matter, and to be considerably dilated towards its cardiac portion. The *pericardium* occupied a much larger portion of the left thoracic cavity than usual, and also a large portion of the right; its posterior surface was glued to the diaphragm by strong short cellular tissue for some distance; it contained

about $\frac{3}{4}$ ij. of a straw-coloured serum, and was lined by a false membrane, (which was nearly general, though most perfect towards the apex of the cavity,) about one or two lines in some places in thickness, of considerable firmness, and very adherent. Besides this lining there existed several bands of organized lymph, varying in length from two to five lines, and very strong, which passed from the pericardium to the heart, and bound the *two firmly together*, so that the motions of the heart during life must have been materially impeded. Neither the external nor internal layer of the pericardium appeared at all thickened or otherwise diseased. The surface of the *heart* instead of presenting its usual glossy and shining appearance, was rough, and of an orange or straw colour. This appearance was due to the existence of a false membrane, similar in most respects to the one lining the pericardium. It was nearly as general, and seemed upon minute examination to consist of two portions, one firm, homogeneous, and about a line in thickness, adhered very closely to the heart; into this layer the fibrous bands alluded to, seemed, (if I may be allowed the expression,) to be inserted; the other or outer layer was softer, of a deeper orange tint, about half a line in thickness, and somewhat mameled. The heart itself much exceeded its ordinary dimensions, it nearly equalling in size that of a twelve months' old calf; its colour was entirely normal, and its consistence a little softer than usual. Commencing with the right auricle, we proceeded to the examination of its cavities.

Right Auricle.—The right auricle was considerably dilated, and its parietes somewhat hypertrophied, particularly those portions forming the walls of the sinus. At this point they were about two or three lines in thickness. Between the muscoli pectinati, and sprouting, as it were, from the lining membrane of the auricle, we found several tumours, varying in size from the head of a pin, up to that of a large bean, of a peculiar shape, and whitish or light pink colour. They were generally spheroidal, but presenting a number of facets, which gave them a shrunken or shrivelled appearance. They were attached either by a narrow pedicle, or by several cords, none of them had an extended base. When cut open they were found to consist of a whitish, somewhat firm capsule, about half a line thick, containing a reddish-gray, semi-fluid mass, which resembled very much disorganized blood, or the thick lees of red wine. The capsule seemed to be perfectly organized. They were situated chiefly along the upper portion of the sinus, or that part nearest the base of the heart; there was one, however, (the largest met with in this cavity,) attached to the anterior division or flap of the tricuspid valve; it equalled in size a large filbert, and must have materially

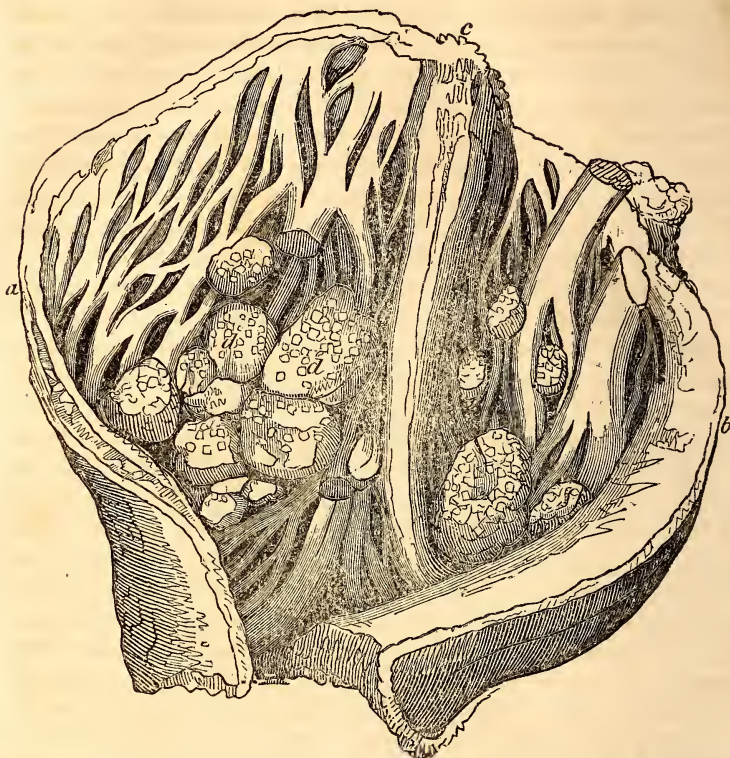
interfered with the venous circulation. See Fig. 4, which represents the sinus of right auricle laid open, and of two-thirds of the portion of the tumour situated on the interior flap of the tricuspid valve.

Fig. 4.



Right Ventricle.—This cavity was filled with a black coagulum, which extended into the orifice of the pulmonary artery, it was somewhat enlarged, though not to so great an extent, comparatively speaking, as the other cavities of the heart; its parietes were slightly hypertrophied, and of a healthy consistence. The columnæ carneæ, as well as the chordæ tendinæ, were also much larger than usual. At the most anterior angle of the cavity, and in that portion of it forming the anterior wall of the heart where this viscus is in situ, there was a large group of tumours, resembling in every respect those already described as existing in the auricles, they were however, much larger than the former, and were partially concealed by the columns, by cutting out one or two of them; the larger portion of the collection was distinctly brought into view. (See Fig 5, exhibiting a section of the apex of the heart; *a*, right ventricle; *b*, left ventricle; *c*, inter-ventricular septum; *d, d*, tumours.) The orifice of the pulmonary artery, as well as its valves, presented a dull red colour. The valves of the ostium venosum, with the exception of the anterior one, were flexible, and every way normal.

Fig. 5.



Left Auricle.—The left auricle was dilated, and its parietes slightly hypertrophied. None of the tumours described were met with in this cavity; orifices of the pulmonary veins not inflamed.

Left Ventricle.—This cavity was also dilated, though its parietes were not hypertrophied; some of the columns seemed larger and more firm than usual. In that portion of the cavity, which forms the apex of the heart, there were several tumours found, resembling those met with in the right cavities. The largest tumour found in the heart was situated at this point, and equalled in size a large English walnut; it was rough on the surface, and contained a fluid similar to that found in the others, (see Fig. 5.) The valvula mitralis was perfectly normal. The orifice of the aorta, as well as the aortic valves, presented a dull red colour, similar to that met with in the pulmonary artery.

Arteries.—The lining membrane of the aorta, commencing at its orifice, and extending to some distance below its curvature, was covered by a layer of coagulable lymph, about half a line in thickness, and apparently of recent formation, as it could be detached from the

subjacent serous coat with great facility; its surface was perfectly smooth. Upon raising this up, the serous coat of the artery presented the appearances of an acute inflammation, manifested by its bright and permanent vermilion hue, its increased thickness, and by the gradual termination of the redness some inches below the arch. The valves, at their bases alone, were covered by the false membrane. The pulmonary artery presented the same morbid phenomena. The occurrence of this albuminous exudation upon the surface of the serous coat is considered by BAILLIE, LAENNEC, ANDRAL, GENDRIN, GUTHRIE, &c. as the most positive indication of the previous existence of inflammation, (see Plate I. Fig. 3.)

Abdomen.—The viscera of the abdomen, without exception, were found in a perfectly normal condition.

Brain and Spinal Marrow.—From the lateness of the hour at which the post mortem was made, these viscera were unavoidably passed over without examination.

Observations.—From the preceding facts, it appears that dilatation and a slight hypertrophy of the right pulmonary heart existed; the species of hypertrophy denominated by BERTIN excentrick hypertrophy. The lining membrane was slightly injected, but had none of the more positive signs of active inflammation. The most remarkable and peculiar pathological feature, were the tumours existing in the different cavities. They are of rare occurrence, and their origin is involved in much obscurity. Laennec first clearly indicated a lesion of this character, which he describes under the appellation of globular vegetations, (*Traite de l'Auscultation*, vol. ii. p. 630.) The only difference between the globular vegetations of Laennec and those of the present case, exists in the exterior covering. He describes them as small, spherical, or ovoid balls or cysts, from the size of a pea to that of a pigeon's egg; the exterior surface being smooth, equal, and of a yellowish white. In this case the exterior surface presented numerous facets, and bore a strong resemblance to the crystallization of the garnet. In other respects the description of Laennec tallies precisely with the appearances observed in the specimen of this case.

The origin of these tumours it is not possible to trace with certainty; they have the aspect of a coagulum of blood, enclosed in an organized cyst, and partially organized itself; but how this should occur, our present knowledge does not enable us to form a conjecture. Polypi-form concretions of the blood are of very common occurrence in the heart, and are often the cause of great embarrassment to the circulation, and finally of death. These concretions, at times, appear to acquire a certain degree of organization, yet they are very different in form and character to the globular vegetations. It is safer at present to refrain from all conjectures on this subject.

In the foregoing case a circumstance of interest also was present. Acute pericarditis existed, as was ascertained by the autopsy. But during life it was manifested by no positive diagnostic signs. The irregularity of the contractions of the heart exist wholly independent of pericarditis. I saw a gentleman in a consultation visit this spring, whose heart acted in the most irregular manner, with very feeble contractions. He died soon after quite suddenly from apoplexy. The pericardium, whose inflammation I had suspected to be the cause, was reported to me to be healthy, but the substance of the heart was softened, and an ulcer existed in its parietes.

In this case no fever, or acute pain, the common attendants on acute pericarditis, were present. The mind too so often disturbed with agitating fears in that disease, was perfectly calm and tranquil. From the obscurity of the symptoms I felt entirely at a loss to determine the true diagnosis of the affection. A cardiac lesion was evident, and a difficulty in the course of the circulation was apparent, but the precise nature of either could not be determined.

On a review of this case, I feel at a loss in deciding whether it would have been a preferable course to have attempted blood-letting for the relief of the circulation, notwithstanding the strong evidences of debility, instead of stimulating. From the apparent effects of the stimulants, they were indicated. The symptoms were lightened, and before the effusion occurred, a very positive amendment had taken place. But was not the effusion one of the effects of the stimulants? Yet why should their action be so local as to affect exclusively the throat? These questions it is difficult to solve.

Aortitis also existed in this case, yet no signs were present to indicate its existence. The pulse in this form of disease is usually tense and hard. The irregularity and feebleness of the heart's action may have controuled this symptom, usually produced by arteritis.

The immediate cause of death appears entirely unconnected with the cardiac lesions. The symptoms originally present, and indicative of disease in the central organ of the circulation had been yielding; a decided amelioration had taken place, when without any assignable cause, the œdematous condition of the fauces and neck ensued, extending to the larynx.

That the cause was local is evident from the œdema having been limited. In the external cellular tissue the effused fluid was deeply coloured with blood.

I have met with several cases previous to this, of œdema of the fauces of a lighter degree, and producing very suffocative respiration, showing its extension to the glottis. They all recovered. This is the first instance I have seen of the disease in a fatal form.

ART. II. *On the Mechanism of some Diseases of the Sympathetic Nerve.* By W. W. WADDEL, M. D. [Communicated by Professor DICKSON, of Charleston, S. C.]

[TO THE EDITOR.]

Dear Sir—I send you the following ingenious essay, which was handed to me by the writer two years since for perusal. Being extremely pleased with it, I solicited a copy for your Journal, a request with which my friend Dr. W. has at last been induced to comply. Those who are fond of close observation, and free but cautious induction, will be amply repaid for the time spent in reading it, by finding here more original remark and scientific reasoning than are often compressed within similar papers.

Yours, &c.

S. H. DICKSON.]

THE important subject which forms the basis of the present paper, will be presented to the reader in a series of somewhat desultory remarks, rather than in the form of an artificial and connected treatise. This course will disclose, so far as consistent with proper perspicuity, that train of observation and reflection, which led to the adoption of the views herein advocated. Those views will be best elucidated by commencing with the history of a most melancholy case, which excited deep and extensive interest in the region of country where it occurred.

Mr. H. a distinguished lawyer of Athens, Georgia, died in the month of October, 1830, affected with paraplegia. He was rather tall and spare in person, pale in complexion, phlegmatic in temperament, and at the time of his death, about thirty years of age. None of his family ascending, descending, or collateral, have ever been peculiarly disposed to hereditary disease; indeed they are said to have enjoyed remarkable immunity from all kinds of chronic disorder. Before his marriage, about the year 1823, he was studious and sedentary in his habits; after that event he became more active.

It was about this time that he began to complain of cardialgia, nervous head-ache, pain at the point of the scapula, and possibly some other symptoms of derangement in digestion. Two or three years afterwards, whilst on the circuit, attending one of the upper county courts, he slept in very damp sheets, and had all these symptoms highly aggravated. From this time onward, dyspepsia and hypochondriasis, with their ordinary accompaniments, made silent but constant progress. In April, 1829, he found himself somewhat wanting in ability to void the contents of his bladder; and this was the first symptom of paralysis. It may be proper to remark, that

hitherto his bowels had acted well, and that he was not at all troubled with pain, either in the epigastric or hypochondriac regions. In August he first remarked that he was losing sensation in the soles of his feet, and this was followed by a similar loss in the calves of his legs, numbness of the thigh, and weakness of the lower limbs generally. Being a candidate for the state legislature, he attended the election at the County Court House, seven miles from home, about the first week of October. Here his strength was much exhausted by the exercise, and the excitement which probably attended on a successful canvass. Riding home on horse-back the next day, he was seized with pains in the lower part of his spine, and spasms in the neighbouring muscles. He now soon lost sensation and motorial power in both of his lower extremities to a great degree. The temperature of his diseased limbs was variable.

Just at this period the author of this essay was requested by his family physician to see him. He had been taking some aperient and alterant medicine, and no particular change being instituted in the treatment, he shortly determined on being carried to Milledgeville, a distance of seventy miles, to meet the State Medical Board as a council on his case. On his way, an application of tartar emetic ointment was made to his legs, which produced very angry effects, and threatened something like gangrene.

Being arrived in Milledgeville, he underwent a course of treatment for fever with which he was attacked, and had two issues established in his back by the council called to him. This was followed by immediate melioration of his symptoms, and onward from that time, an indefinite number of issues were kept discharging until within two months of his death.

His absence from home amounted to five weeks, at the expiration of which time he was brought back, apparently much improved in general health. His appetite in the course of a week became very vigorous, soliciting food of the strongest kind. Some indulgence of this propensity invited a return of his fever, but no symptom of moment appeared until February of 1830, when he was seized with universal muscular spasms of a very severe character. Colic, throughout the whole of his illness, was one of his most distressing symptom, and this was accompanied by a great evolution of gas, and so much spasmodic uneasiness, as to threaten the extinction of life. For this he commenced the use of laudanum as the spring advanced, and gradually increased its dose until within a few weeks of his death in October, at which time he would take as much as two ounces and a half in twenty-four hours.

A visit to a chalybeate spring in May, did not materially benefit him. Great emaciation of the lower extremities, together with permanent tonic contraction of the flexor tendons of the toes came on, and paralysis gradually extended upwards until July, when sensation became null as high as the xiphoid cartilage in front, but not so high on the posterior part of the trunk. During the summer his bowels were irregular; the power of the sphincter ani was lost, and also the sensibility of the rectum, as high as the sigmoid flexure of the colon. He received intimation of an approaching alvine discharge, by a sensation in his bowels similar to what might be expected from warm water passing through them. He sometimes had power to retain and void the contents of his bladder ad libitum; at other times all controul of the vesical sphincter was lost, and the urine was discharged involuntarily. It was sometimes bloody, at other times it came away mingled with long shreds of mucus; during the latter part of his life, it consisted in a great measure of pure blood.

His treatment under the care of Dr. LINTON for the last two months of his life, consisted in drying up his issues, regulating his bowels with sulphate of alumine, calcined magnesia, &c. &c. Infusion of hops was substituted for tincture of opium, and the latter article was withdrawn entirely, so far as practicable. Moxibustion was instituted on his spine, feet, and knees. To the use of the latter remedy, there succeeded a development of very obscure sensation in the sole of one foot, and in the ankle of the opposite limb, together with a perceptible relaxation of the flexor tendons of the toes.

Three weeks previous to death, a pain commenced in the right hypochondrium, attended by some spasmodic movement of the corresponding external part, which was intermittent in character. Seventy-two hours before death, there issued from his bowels a profuse sanguineo-purulent discharge, followed by great prostration of vital power, inability to swallow, dimness of vision, and death in the entire possession of every intellectual faculty.

Warmth was general throughout his lower limbs until the last moment.

Autopsy, sixteen hours after death.—Present, Drs. LINTON, JONES, TINSLEY, and WADDEL; and Messrs. MARSHALL and FRANKLIN, medical students.

External aspect.—The body presented the utmost extreme of emaciation, but this was much more remarkable in the lower limbs than elsewhere. The different notches and processes which constitute the contour of the pelvis, were boldly pronounced, and plainly

seen through the external integuments; the muscles of the limbs were reduced to strings, and the anterior walls of the abdomen were in contact with the spinal column. The blood, from the position of the body, had gravitated to the back, and the posterior periphery of the trunk presented a generally ecchymosed aspect. The burnt spots occasioned by the use of the moxa, had been obstinate in refusing to heal previous to death. Externally they seemed to be gangrenous, but dissection of the integuments showed that disease in those places did not extend below the cutis vera, proving a want of vital power in the integuments alone to be the cause of their unhealthy character, and exemplifying, probably, the attribute of the cellular tissue mentioned by BICHAT, of insulating and preventing the extension of diseased action.

Spine, &c.—The tegumentary and muscular parts being removed from the vicinity of the vertebral column, the bony arches of the vertebræ were detached with the chisel and mallet, commencing about the middle dorsal vertebra, and proceeding downwards. All the bones were found to be perfectly sound in structure, so much so, as to cause considerable difficulty in breaking through their connexions by force. The lower section of the spinal cord was taken out and examined, both before and after washing. There was no manifestation of disease, either in the medulla propria or its investing sheaths; no vascular engorgement, nor any departure from proper consistency or healthy colour, so far as the judgment of the professional gentlemen present could be relied on.

Abdomen.—On making the necessary incisions, and turning back the flaps, the whole mesenteric venous circle was beautifully displayed in the form of a dark injection. The liver, spleen, mesenteric glands, and right kidney, were externally healthy; the left kidney was not examined. The stomach was somewhat contracted, and partly filled with a fluid resembling dark blood, but tinged with the rich hue of healthy cystic bile. Its mucous lining presented the most intense grade of dark red injection, and this not in patches, but generally and equally diffused. The colour of the same tissue in the small and great intestines did not essentially differ from that in the stomach, but instead of finding those organs filled with a similar fluid, their walls were found bathed in loose purulent matter, of a dirty yellow hue. The source of this was discovered to be an ulcerated perforation of the duodenum, not far from the antrum pylori, the edges of which were soft and ragged. The diameter of the perforation was about half an inch.

Thorax.—This cavity contained nothing worthy of record, but a remarkable diminution in the size of the heart, and a manifest paleness of the lungs.

The character of the preceding history and autopsy no doubt requires apology. The author would say, that it was only during a short time that he constituted a part of the medical council in the case of Mr. H. and *that*, near to the termination of his life. He is not aware of any journal having been kept by his former medical attendant, and the history is principally made up of excerpts of information communicated by Mr. H. and his lady. This may account for an appearance of unnecessary minuteness in some respects, and too great generalization in others. A very limited time was allowed to prosecute an examination post mortem, and this was consumed in taking a rapid survey of the most important organs. It is much to be regretted that we could not examine the intra-cranial mass, and the ganglia of the sympathetic nerve. The interior of the bladder, kidneys, liver, spleen, &c. were all overlooked for want of time.

When we undertake an investigation into the nature of the extensive malady which is portrayed in the foregoing history and autopsy, we are called upon first to examine the predominant manifestation—paraplegia. If we shall be able to trace the connexion of this *symptom* with the internal structural disease, and at the same time account for the coëxistence of a clear intellect and a perfectly healthy spinal cord, it will be well; but if not, there are few who will not acknowledge the complications of diseased action to be so strange, that no discredit can be attached to a failure. The author of the present essay desires to approach his subject with that degree of modesty, which becomes even the most learned and experienced, in attempting to solve the mysteries of the nervous system. Many praiseworthy efforts of this kind have been made of late years, and much light has been concentrated on an obscure and interesting topic. But when it is considered that we are yet in the infancy of our knowledge respecting this department of pathology, it is to be hoped that the humblest contribution may not be without its value.

It is notorious that a pathological condition of the spinal cord, or of some portion of the bony or ligamentous structure of the vertebral column, was long thought to be the cause of paraplegia. Of late years, however, a galaxy of distinguished men have lent the influence of their names to the idea, that it more frequently originates from derangement in some part of the brain. Dr. BAILLIE, Dr. ABERCROMBIE, Dr. COOKE, Sir JAMES EARLE, Sir HENRY HALFORD, and Mr. COPELAND, are all quoted as having concurred in this opinion.

It is probable that the earliest and most satisfactory description of this form of paraplegia, is to be found in the paper of Dr. Baillie, "Upon Paraplegia in Adults," in the sixth vol. of the Medical Transactions of the London College of Physicians. It will early strike the reader in reflecting on the great extent and varied nature of the disease recorded in the present instance, that had it taken its origin from any disorder of the brain, we must almost of necessity suppose, that it would have been preceded, accompanied, or followed by some derangement of the more immediate functions of that organ, and more especially of the intellect. Dr. Cooke, in quoting Dr. Baillie, has the following language confirmatory of this idea. "It," (cerebral paraplegia,) "is accompanied either by some feeling of pain, or giddiness, or sense of weight in the head, or undue drowsiness, and vision is often more or less impaired; sometimes the sight of one eye is almost entirely lost, and its pupil appears dilated, as in gutta serena, and occasionally there is a paralytic dropping of the upper eyelid of one eye; sometimes the affection of the brain is marked by a defect in the memory, and a want of the ready exercise of the general powers of the mind; sometimes one or both of the upper extremities are affected more or less with numbness, and with a feebleness of their motions, when no disease whatever can be found in the cervical part of the spine. These circumstances, Dr. Baillie thinks, afford strong evidence that the cause of the disease exists in such cases, within the cavity of the skull, and that it consists in some mode of pressure on the brain."*

We derive strong proof that cerebral paraplegia necessarily involves some mental derangement, from the statistics of general paralysis, as it occurred under the observation of Dr. CALMEIL, in the Royal Lunatic Asylum of Charenton. In his work,† about fifty of the sixty-four cases of general paralysis recorded, were *preceded* by mental alienation; in a very few instances the paralysis was the precursor; in a small number, constituting a third class, the two diseases manifested themselves simultaneously; but no case came under notice, where the mental disorder was not present sooner or later. The motions of the tongue and pelvic members were almost uniformly first affected after the symptoms of intellectual disease appeared; the paralysis of the arms was in general a phenomenon of later occurrence. Hemiplegia appears to have been rare. Dr. Calmeil regards it "as a thing impossible, that reason can long remain untouched, when the brain is so profoundly affected as it is accustomed to be in

* On Nervous Diseases, p. 241. † De la Paralytie considérée chez les Aliénés.

the case of general paralysis.”* Again, “it is very rare that the material lesion commences in that part of the encephalon from whence the powers of motion derive their origin, the part which presides over the manifestations of intellect at the same time remaining sound.”† In recurring to the history of Mr. H. we shall be struck with the remarkable difference between the picture exhibited by his malady, and the symptoms as detailed by the above authorities. He was never affected by any aberration of function in his brain or upper extremities. So perfect was his intellect, that one of his brother lawyers was in the habit of availing himself of his counsel to assist in unravelling knotty cases in law, after his confinement to bed became constant. These facts, added to the perfect preservation of a sound mind to the latest hour of life, speak for themselves, so far as any implication of his brain might be suspected.

It is possible that some one might urge, that the absence of intellectual derangement can only be conclusive of the integrity of the cerebral hemispheres; and inasmuch as the examination of the whole intra-cranial mass was neglected for want of time, there might still be an altered structure or other pathological condition of the cerebellum. It is difficult to say what is satisfactorily known relative to this part of the encephalic apparatus. Some physiologists, however, have concluded it to be the source of that power which combines and coördinates motion, and not the source of motion itself.‡ In the present case it may have still preserved the integrity of its functional powers, but they were not so much called into exercise, because no motions of the *lower* limbs were executed, requiring coördination. Mr. H. retained the most perfect command of his *upper* extremities, and no discovery was ever made by his physicians or attendants, to the effect that he had ever lost his combining power over their motions in the smallest degree.

It was suggested by a gentleman at the post mortem examination, that the intervertebral fibro-cartilages were much thickened and enlarged. This was no doubt due to the patient's almost constant decubitus for the previous twelve months, in the course of which time, these bodies, from the removal of all superincumbent weight, had ex-

* P. 8.

† P. 339.

‡ Amongst all the experiments of the vivisectors on the cerebellum, those of Bouillaud appear to point out most plainly the physiological uses of that organ. It seems that injuries inflicted on it never caused loss of power of flexion or extension, nor yet loss of general muscular energy, neither did they produce convulsions or paralysis, local or otherwise; but they uniformly resulted in an incapacity to combine the actions of the motorial apparatus.

panded and permanently lost their elasticity. Those who have attended the anatomical lectures of Dr. PHYSICK on the spinal column, may remember to have seen him push a scalpel into the fibro-cartilage, and that when the hand is removed, the knife is extruded by the elasticity of the compressed pulpy matter in the centre of the structure. In the present case this experiment was tried on two cartilages, but no motion of the knife followed. Elasticity, as much a property of dead as of living matter, was entirely gone, and we are left to conclude that the expansion was a natural and legitimate result of a simple cause acting on the structure, long after paralysis had already taken place.

The reader might probably be willing to rest the general argument against the existence of disease of the spinal cord in the case under consideration in this; that from the middle dorsal vertebræ downward, there was no discoverable change in its organic structure, notwithstanding a paraplegia which was complete for nearly one year. Before we come to such a conclusion, let us examine the opinion of one who has had much experience on the subject. M. Calmeil in a long list of post mortem appearances found in the bodies of those dead of paralysis and mania, gives the following:—injection of the cranial bones and of the dura mater; general meningeal infiltration; accumulations of serosity betwixt the opposing surfaces of the arachnoid tunic; mollescence, hardening, injection, and other changes in colour and consistence, both of the white and gray substance; pseudo-membranes, organized and non-organized, together with sanguineous cysts, between the surfaces of the arachnoid tunic; vegetations of the pia mater; thickening of the same membrane; adhesions betwixt the pia mater and the cerebral convolutions; softening of the spinal cord, &c.* Notwithstanding a majority of the cases of general paralysis in maniacs related by M. Calmeil, left post mortem record of the above manifestations, he contends that they are neither necessary to the production, nor sufficient to the explanation of the symptoms during life. He comes to the conclusion that it is a chronic phlegmasia of the brain which gives rise to general paralysis, by determining in that organ a certain modification which we have not hitherto known how to appreciate. And if there happen a case where the brain after death presents no trace of such a phlegmasia, it must not be received as certain proof that it had not preëxisted, but we are to suppose that it had lasted sufficiently long to result in paralysis, and had subsequently disappeared, the paralysis remaining. The phlegmasia alluded to

* *De la Paralyse, &c.* p. 415.

is a thing entirely *independent* of the alterations mentioned above. We are thus thrown back on the very vague and unsatisfactory doctrine, that in paralysis, we are not to expect any sensible alteration in the structure of the great nervous centres after death, notwithstanding the many autopsies which go to prove a coëxistence of the alterations with the symptoms during life. We must either protest against such a doctrine or confess that post mortem examinations in such cases are almost useless. In reference to the case of Mr. H. reasons have already been given for supposing the brain free from implication; and from the length of time occupied by the symptoms, had the disease originated in the cord, we should have had good reason to expect that autopsy would have revealed to us atrophy, mollescence, meningeal injection, or some other important structural change in that organ. The reader has already been told that none of these were found.

Driven from the idea that the paralysis had any direct connexion with the brain or spinal cord, it is not difficult to determine that it was the result of an aggravated disease of the stomach and bowels, to which it stood in the relation of a secondary effect. Authors have spoken of such a form of disorder before, though very obscurely, and we may now examine the amount of information to be gathered on the subject, from a common medical library.

It is believed that the credit is due to Mr. ABERNETHY of having first called the attention of the profession to a form of partial paralysis of the lower extremities, originating from a pathological condition of the digestive organs. He relates five or six cases of this character,* several of which were cured by country air, exercise, regimen, and a few simple medicines. So far as we can learn from reading his reports, he believed that those cases were due to a disorder of the nerves and some circumscribed portions of the spinal cord, (spinal centres of LE GALLOIS,) independent of the brain. It is palpably clear that all his notions eventually result in supposing a *disease of the cord*, to which view we do not subscribe.

Professor LOBSTEIN in that portion of his work devoted to the pathology of the sympathetic nerve, relates a case of paraplegia as having occurred in a girl ten years of age, accompanied by diarrhœa, with incurable tormina and tenesmus, no intellectual derangement being mentioned. Dissection revealed a large abscess of the left side, extending from the sixth to the tenth dorsal vertebra, which had produced complete caries of the sixth and seventh of those bones. Cor-

* Surgical and Physical Works, p. 61.

responding to this caries, the spinal cord for sixteen lines, was whiter than usual, and in a state of atrophy. The intervertebral cartilages and the meninges of the cord were sound, but the trunk of the sympathetic nerve from the sixth to the twelfth dorsal vertebra was completely destroyed, and its lumbar portion in a state of inflammation.* It seems to have been the object of professor Lobstein in relating this case, simply to illustrate the post mortem alterations left after diseases of the sympathetic nerve. No principle is deduced from it to show that paralysis is a probable result of those diseases, nor is such a principle to be discovered in his great work. The reader will of course observe for himself that there was sufficient lesion of the spinal cord to account for the paralysis.

Broussaï† speaks freely of paralysis from chronic internal disorder. He notices, however, no especial mechanism.

BEGIN,‡ in speaking of the extensive dominion of the stomach over all other parts, remarks, that “the muscles placed under the influence of the nerves, brain and spinal marrow, are generally affected through the medium of those organs in gastro-enteritis. They are sometimes seized with trembling, convulsions, spasms, tetanus; at other times they experience an irresistible reluctance to motion, and a deep sense of weakness and palsy to a certain extent.” We have here another expression of the pathological fact, but still without an exact mechanism; for we are left in doubt whether M. Begin alluded to the sympathetic anastomosing cords, or to the pneumo-gastric nerve, brain and spinal marrow, as the route by which disease travelled.

Dr. GEDDINGS, in a paper on the use of strychnine in paralysis, in the fourteenth No. of this journal, speaks of the well known fact, that that disease results from the influence of lead in the stomach and bowels, and indicates the anastomosis of the visceral with the encephalo-spinal nerves as the medium by which pathological action is extended. The ideas contained in the present paper will be found to be very different from those of Dr. G. as the sequel will show.

Amongst the many modifications of doctrine which have of late years laid claim to public attention as explanatory of the morbid phenomena of the nervous system, that contained in the work of Mr. TEALE, has probably enjoyed in this country the highest popularity. At the time the present case was reported to the Central Medical Society of Georgia, in December, 1830, Mr. Teale’s work not being

* Lobstein on the Sympathetic Nerve. Pancoast’s translation, p. 147.

† Pathology. Prép. cciii. ‡ Therapeutics, translated by Tessier, p. 169.

in general circulation, it was suggested by a highly respected medical friend, that Mr. T. had reported similar cases, and embraced in his speculations similar pathological notions. The reader shall judge for himself that this was a great error. The two doctrines will be found to offer to view nothing in common; they exhibit nothing but palpable contrast. In order to make this plain, the present author would with all proper modesty point out what he believes to be the faults in Mr. Teale's pathological views. He attributes all the morbid nervous symptoms which come under his notice to an original affection of the central nervous masses, from which the nerves supplying the diseased parts proceed. Let an examination be instituted into the probability of this theory. All the great nervous centres are either encased within solid bone, or so deeply hid in the recesses of the system, that it is impossible for external agents to reach them and produce disease, excepting through the medium of the nerves which pass betwixt those centres and the tegumentary tissues. Those disorders of the brain, (or of other parts, secondary to disorders of the brain,) which proceed from the moral affections, do not even constitute exceptions to the rule, for all perversions of the moral movements result from causes originally introduced through the external senses, the nerves of which are exposed to their appropriate stimuli on the tegumentary membranes. If such be the truth, it would seem to be a thing impossible for an *original* disease of a nervous centre to exist, and we must conclude that an irritation of the sympathetic ganglia, of which Mr. Teale has spoken, the morbid movement first originates in some one of those mucous tissues which are so exposed to countless stimuli, and that it is subsequently propagated by the visceral cords of the sympathetic nerve to the ganglion.

When we undertake to deduce our therapeutic indications from the doctrines of Mr. Teale, we shall find that a belief in them is not merely an *ideal* evil, for it will lead us to make the same mistakes that he has made, (and which he professed to avoid,) namely, to apply our remedies to the seat of the symptom, rather than to the seat of the malady. For example, we may suppose an inflammation to commence from the operation of the ordinary causes in the gastro-intestinal mucous tissue, to involve the visceral branches of the sympathetic nerve, and to be transmitted by them to the ganglia; and even more, we may suppose, that by the appropriate anastomosis, a corresponding portion of the spinal cord may become affected. The question before us is this: will the remedies of Mr. Teale, (counter-irritations to the spine,) though they produce temporary relief, hold out any hope of a permanent cure? They are beneficial in the case

of Mr. H. but we have no right to hope that disease will not return in every other case, as it did in his, after the effects of the remedies have subsided. We must address our remediate agents to the stomach also, and *principally* to it, and when it is restored to a healthy condition, then, and not till then, will the health of the ganglion and spinal cord be permanently restored.

Mr. Teale has related some cases which are explicable on the principles advocated in the present paper, and the case of the dyspeptic married lady may be especially referred to as one of them, (case No. 13.) He has not, however, resorted to the explanation, and it may moreover be remarked that he has said but little of that reciprocal sympathy betwixt internal and external life, on which hinges all the correspondence of action between the two, and which accounts for so much that is obscure in pathology.

The author would premise his own particular views of the mechanism of diseased action in the case under review, by professing his belief in the celebrated theory of KEIL,* in regard to the nature and uses of the sympathetic nerve. Admitting this nerve to stand betwixt the visceral surfaces and the encephalo-rachidian apparatus, as an inter-medium for the communication of impressions from the one to the other; we must, with Keil, look upon it in the character of an isolator, a semi-conductor, so to speak, a part of whose office is to benumb and deaden the intensity of the vital actions of one class of organs on the other. We cannot see it in an agent of *full* conducting capacity, but rather a medium of slow and obscure, but sure and steady innervation, between the organs of internal and external life. This is its physiological condition. But in some modifications of its state, and these most probably consist in irritation or inflammation, it most evidently becomes changed in character, and exalted in function, from an isolator to a full conductor. Two series of pathological phenomena result from this change. The influence of the brain on the stomach and bowels, which was formerly broken and benumbed by this nerve, is now transmitted rapidly, and hence all those persons who are suffering from chronic irritations of the digestive organs have their diseases much aggravated by any cause which produces mental emotion. On the other hand, the internal movements of digestion, with their dependent processes, are no longer confined in their impressions to the viscera, but those impressions are transmitted to the brain, occasion-

* It is probable that the best analysis of this theory to be found in a common library, is the one given by professor Lobstein in his work on the sympathetic nerve.—*Pancoast's translation*, p. 72, *et seq.*

ing great disturbance in the functions of that organ, and hence the well known fact, that dyspepsia and chronic irritations of the alimentary tube, can prostrate the energies of the finest intellect. In all these cases it is probable that there is an exaltation, more or less decided, in the conducting powers of the sympathetic nerve.

The case of Mr. H. has nothing in it so obscure that it cannot be explained on the above-mentioned principles. His first disease was dyspepsia and its ordinary concomitant, chronic gastro-intestinal irritation. By sleeping in damp sheets, (*vide history*,) this latter was exaggerated into inflammation, involving the visceral cords of the sympathetic nerve, subsequently the ganglia, and finally the anastomosing cords. It is not necessary to suppose that the inflammation ever proceeded so far as to affect either the spinal cord or its envelopes, and indeed there is good reason to determine that it did not, since we never knew of the existence of pain in that region during life, nor detected alteration of a morbid character after death. Understanding then, that in a state of nature, a stream of nervous influence passes from the brain into the spinal cord, and by the nerves into the limbs, and that a part of the same stream passes by the anastomosing cords of the sympathetic nerve to the visceral surfaces, is it not probable that the highly exaggerated vitality of that nerve, in its inflamed state, caused it to appropriate or monopolize by a species of revulsion, too much, nay, all of that innervation proceeding from the brain, and originally designed for the teguments and muscles of the lower limbs? If such be the fact, we are to look upon the sympathetic nerve to have had its conducting capacity so elevated by disease, that it acted the part of a diverticulum of the nervous principle from its proper destination, leaving us no reason to be surprised that the parts from which this principle was abstracted should become paralytic.

Amongst some notes taken about the time that Mr. H. died, the author finds the following fact communicated by Dr. Linton. One of the issues was seated on the spine, just on the boundary line betwixt the sensitive and paralyzed portions of the skin. When the spot was touched, it was said almost always to excite the peristaltic motion, and this was accompanied by a growling noise. The reader will here be reminded of the theory of Mr. Teale in regard to the secretion of air in affections of the sympathetic ganglia, and of the sudden extrication of gas on pressing a tender spot on the spine. Our two facts may be placed side by side, and inferences drawn at the discretion of those interested, but on the whole the circumstance above

mentioned seems to confirm the view already taken, that there was a highly exalted state of vitality in the ganglia and their cords, for no one would have expected such an effect from touching a similar spot, corresponding to a sound and healthy ganglion.

A most important and striking difference between the case here on record and ordinary cases of paralysis consisted in this, that whereas in common hemiplegia for example, a long time commonly elapses before any emaciation takes place sufficient to distinguish the sound from the diseased limb* in size, there was in the case of Mr. H. a *rapid* emaciation of the lower limbs. (If the reader will notice the italicization of the word “rapid” we shall have subsequent use for the important fact it expresses.) This palpable departure from the usual phenomena of paralysis requires some explanation, and the following solution of the difficulty is accordingly offered. The muscular apparatus is held under the dominion of the brain and in relation with it, not by means of the cerebro-spinal nerves alone, but also by means of the blood-vessels. If the nervous communication be interrupted, the consequence is a loss of sensibility and power of motion. The limb, however, still retains its natural size, and its nutritive organic actions proceed as usual, because of its *vascular* connexion with the great vital centres, the circulation in the vessels being maintained in virtue of the energy which they in common with the heart derive from the sympathetic nervous system.† Condemned to rest, however, by loss of power to move, a limb ceases to invite into it the usual quantity of blood, the vessels gradually contract their calibre to suit this diminution, the nutritive movements all lessen, and *slow* atrophy takes place. Broussais has brought proof that atrophy in ordinary paralysis only occurs *at all*, in consequence of the want of exercise. He cites cases of the same slow wasting in limbs which are deprived of power to move by other diseases, unconnected with paralysis; as fractures, painful rheumatisms, &c. In some chronic inflammations of the lungs also, instinct prevents the intercostal muscles from acting, lest they should aggravate the internal irritation, and they hence waste away. Emaciation then, in ordinary paralysis, may be safely referred to the continued rest to which the limb is con-

* Bichat’s General Anatomy, Vol. I. p. 218.

† We could scarcely wish for a more beautiful illustration of the separation in function of the two great nervous systems, than one to be found in the case related by Dr. Parry, in which there was “a total loss of pulse in one arm, with coldness, but complete power of motion; while the other arm was warm, and possessed a perfectly good pulse, but had lost all power of voluntary motion.”

demned, for lack of encephalo-spinal stimulation.* Why then did atrophy supervene so *rapidly* in the case of Mr. H.? The answer is plain. His limbs were condemned to rest, and in that much were subjected to the same causes of emaciation which act on other paralysed limbs. But in addition to this, the functions of the arterial and nutritive system were most seriously injured in consequence of the pathological condition of the sympathetic nerve. How far the remarkable diminution in the size of the heart may have depended on the same cause, the author will not pretend to say.

The question may be asked whether the mechanism herein advocated, can be proven sufficient to account for the occasional and irregular paralytic symptoms of the rectum and urinary bladder. Those two organs have been thought to be much more than any other of the internal viscera, subject to the influence of the voluntary nervous system. Dr. O'Beirne has asserted that the rectum even receives nerves directly from the spinal marrow, without previous interlacing with the filaments of the sympathetic system.† He does not inform us upon whose authority the assertion is made, or whether indeed the observation is not original with himself. With all due respect for the authority of that gentleman, it is impossible to come into the idea, in a way so exclusive as his observations seem to require of us. If the reader will notice a few quotations from some of the most distinguished of modern anatomists, he will find good reason to demur. "Its nerves," (the nerves of the rectum,) "are derived from the solar and hypogastric plexus of the great sympathetic."‡ Again, "the anterior branches of the sacral nerves are much larger than the posterior. The four first communicate with the sacral ganglions of the great sympathetic, besides forming the ischiatic plexus. The third and the fourth assisted by the great sympathetic, form the hypogastric plexus. The fifth and the sixth when it exists, are distributed to the coccygeus, sphincter and levator ani."§ Thus much from professor HORNER. "This plexus," (hypogastric,) "having a compound origin from the preceding plexus," (inferior mesenteric,) from the lumbar ganglia and from the trunk of the intercostal nerve of each side, is placed like a broad fasciculus between the primitive

* It is useless to refer the reader to a particular page in the writings of Broussais for the above principles. Those who are conversant with his works will remember them as scattered throughout several.

† The idea here quoted is used to great advantage by Dr. O'B. in supporting his new theory of the anatomy, physiology and pathology of the great intestine.

‡ Horner's Special Anatomy, Vol. II. p. 37.

§ Ibid. Vol. II. p. 503.

iliac arteries, descends deeply in the pelvis, and is connected by a few branches with the third and fourth sacral nerves: whence a conspicuous interlacing of filaments arise, which in following the branches of the hypogastric artery, extend to the rectum, ureter, urinary bladder, to the vesiculæ seminales in men, and to the uterus and vagina in women.”* We quote from one more author. “Its nerves,” (the nerves of the rectum,) “come from the sciatic and hypogastric plexus.”† The hypogastric plexus is, according to the testimony of all the above-named anatomists, formed by an interlacing of filaments of the sacral ganglia with the sacral spinal nerves, and it then “sends its ramifications to the rectum, bladder, &c. along with the arteries which go to be distributed to those parts.”‡

The above quotations prove, that though there may be single filaments going from the spinal cord to the pelvic viscera in a direct way, yet the great mass of nervous supply is effected in the usual manner; that is to say, the interlacing or anastomoses of the spinal nerves with those of the sympathetic system, has a tendency to remove the pelvic as well as the other viscera from the direct influence of encephalo-rachidian energy. If there be such a fact in physiology as this, that the influences of the two kinds of nervous matter are kept distinct after the branches leave the hypogastric plexus to be distributed to the viscera, there is but little doubt that it is the function of the sympathetic filaments to preside over the peculiar actions of the mucous membranes, while the spinal energy is mainly expended on the contractile movements of the muscular coats. No great difficulty can then occur in explaining the partial and irregular paralysis of the hollow viscera, (it is of this character in all sorts of palsy,) on the same principles which make the causes of general paraplegia in the present case so obvious. The insulation of structure and function of the different tissues of the same apparatus, renders it quite as easy for the sympathetic nerves to appropriate the encephalo-spinal aura, originally belonging to one tissue or function, and expend it on others, as it would be for them to withdraw this same aura from the lower limbs. We had every proof of intense disease of the rectum, furnished by autopsy, in the case before us. We found the same appearances that we saw in the upper intestines, excepting the perforation, and this latter was by no means conclusive of a more intense grade of inflammation in the upper than in the lower bowels. It pointed to the fact of a more exalted rank in nutritive vitality, and

* Lobstein on the Sympathetic Nerve.—*Pancoast's translation*, p. 37.

† Cloquet's Anatomy.—*Knox's translation*, p. 619.

‡ Ibid. 540.

proved the existence of a greater number of absorbents, which accounts for the ulceration, terminating in perforation. The above arguments are brought forward in deference to the assertion of Dr. O'Beirne. The author well knows that Bichat has shown, by conclusive physiological experiments, that the rectum and bladder are much more under the dominion of the sympathetic nervous influence, and much less under that of the brain, than is commonly supposed.

If the mechanism above stated, of the pathology of this peculiar form of paraplegia be correct, it is certainly not confined to the explanation of one form of disease, but it becomes elevated into a principle, which may be applied to the elucidation of much that is obscure in general pathology.

One of the common symptoms of *dysentery*, in all probability, has its origin in the principle of nervous revulsion here contended for. It is well known, that when this disorder has continued for several days, there is a weakness of the lower limbs altogether disproportioned to the general muscular debility. This is more especially felt in the knees after a painful effort to evacuate the bowels, and it cannot be better explained than by supposing that at this stage of the mucous inflammation, the visceral filaments have become involved, and subsequently the principal structure of the sympathetic nerve, and that they are now in the act of appropriating a portion of that cerebro-spinal nervous principle, which belonged originally to the lower extremities. The present ideas of the splanchnic origin of paraplegia were communicated to the brother of the gentleman whose case forms the basis of this paper, in the winter of 1830. This gentleman is a physician of distinction, who resided at a distance from his brother and the author. He was, at the time mentioned, incredulous as to the theory proposed. In the fall or winter of 1833, he had a protracted attack of dysentery himself, which eventuated in such weakness of the lower limbs, that he was for a length of time with difficulty able to mount his horse. He has since professed to believe that the theory is true.

The seat of *saturnine colic* has been supposed to be the sympathetic nerve. Passing by the question, as to whether the primary influence of lead on the mucous membrane of the digestive tube, consists in sedation or not, there can be but little doubt that its eventual effect is true inflammation. The irregular state of contraction in which the intestines are found post mortem, indicates that an exalted vitality of the nerves of their muscular coats had attracted a share of the cerebral nervous aura into their structure, larger than usual, and which produced those tetanic spasms, constituting the colic during

life. Just such a state of things would seem to have existed, shortly after the disease of Mr. H. commenced, (the reader will remember the colic for which he was obliged to use such immense quantities of laudanum.) When we add to the above named post mortem appearances, the traces of mucous inflammation to be found after saturnine colic, we have strong reason to suspect that the visceral nerves are involved, and that this disease, (paralysis from saturnine colic,) owes its origin to our principle of nervous revulsion.

The dependence of angina pectoris on the principle herein advocated, is probably very close. Though Mr. Teale be correct in putting this down as a malady of the sympathetic nerve, he is thus far from having removed the obscurity which has proverbially enshrouded it, that he has overlooked the cause and cure of one important form—namely, that in which the symptoms of angina are produced by chronic irritation of the stomach and duodenum. The paroxysm commences gradually, and one of the most common symptoms premonitory of the attack, will probably be found to be great oppression in the epigastrium, accompanied by hypochondriasis. To this succeeds total loss of appetite, eructations of gas, distressing dyspnœa, pain and soreness of the left side of the chest, (this latter symptom remains frequently for days after the others have subsided,) pain extending from the left side to the left arm, following the course of the great vessels at the internal edge of the biceps muscle down to the elbow, and thence sometimes to the end of the little finger. The right arm is *occasionally* affected in a similar manner, but not to so great an extent. The pulse is tolerably regular, excepting on the inhalation of a volume of fresh air, and this never fails to make it very rapid; but immediately on the collapse of the walls of the chest, it again becomes slow, and the difference in frequency is so great, that one is apt to be deceived, and suppose that there is a complete intermission after the expiration of the air. So far as the author's observation has extended, there is no symptom in this form of anginose disease so constant and unvarying as the above-mentioned state of the pulse, and it is most respectfully suggested to those members of the profession who have under treatment cases of gastric irritation, that they request their patients to make two or three full inspirations perfectly at leisure, whilst the finger rests upon the pulse, that they may observe it. The heart is in this case weakened in muscular power, because the energies of the sympathetic nerve, under whose influence it contracts, are withdrawn from it, and transferred to the stomach and duodenum by irritation and revulsive action. The plain consequence is an undue accumula-

tion of blood in its cavities, causing oppression, dyspnœa, &c. On the expansion of the chest the lungs also expand, and their thousands of blood-vessels, great and small, unfold themselves, and from their tortuous condition become measurably strait, and from collapse become pervious. In fine, there is a state of things induced in the vascular structure of this part equivalent to a vacuum, quoad the blood, as much so as the expansion of the chest is equivalent to a vacuum, quoad the external air; and if the right ventricle should have its contractions facilitated by a more pervious state of the pulmonary artery and its branches, the left will, of course, contract synchronously. The whole mass of blood finding less resistance, flows into its appropriate channels, and permits the heart to contract more rapidly.

It is well known that the opinion here advanced, that the circulation is quickened during inspiration, is contradicted. The reader will take notice that the idea has nothing in common with that of Dr. Barry, relative to the effect of atmospheric pressure on the *healthy* circulation. It is a *morbid* phenomenon traceable to weakened muscular action of the heart, and is said not to be observable in cases where the heart is vigorous, not even when the pleural cavities are partly filled with effused fluids.

Mr. Teale places this disease in the sympathetic ganglia partly, and partly in the spinal marrow. He does not tell us that it has been introduced by the operation of morbid causes on the gastrointestinal mucous membrane. It has never occurred to the author to notice the tenderness in any portion of the vertebral column, but even in such a case, a course of diet and regimen, with reference to the irritated state of the stomach and bowels, would have been preferred to the revulsive remedies to the spine, and this treatment is now based on the success which has followed its adoption. An idea has likewise been adopted from some conversation with Dr. MALCOLM NICHOLSON, a most eminent medical gentleman of Florida, that the form of disease above described presents the best opportunity for fully testing the virtues of the bark of the wild cherry tree, (*Prunus Virginiana*.)

It need scarcely be remarked that the pain in the arm in all anginose diseases is explained by LAENNEC to result from the anastomosis of the ganglionic filaments with the brachial nerves.

There has occurred under the notice of the author, the case of an old dyspeptic, who for several years past has been subject to paroxysms, of which the above series of distressing symptoms is an exact transcript. When they subside, they are very frequently replaced

by an obtuse pain in the sacrum or lumbar vertebræ, which is accompanied by a sensation of most uncomfortable weakness of the lower limbs. The dyspnœa and anginose symptoms never coëxist with the debility of the lower extremities, but the two always alternate. These manifestations are explicable in the following way. The whole tract of the sympathetic nerve is predisposed to irritation. This irritation is developed in the stomach by the alimentary mass in the first stages of digestion, producing a revulsion of nervous energy from the heart, much to the injury of its muscular powers; hence the accumulation of blood, dyspnœa, &c. &c. In a later stage the fæcal mass may produce the irritation in the cœcum, colon, and rectum, and here the sympathetic nerve by its revulsive power monopolizes part of the cerebro-spinal aura, which went formerly to the lower extremities; hence their present debility.

Those who hesitate to admit the preceding explanation, because *all* gastric irritations are not accompanied by corresponding affections of the heart, are requested to bear in mind the fact long since pointed out by Bichat, that there occurs occasionally an interruption in the chain of ganglions, effectually putting a stop to the correspondence of action between different organs.

It is without doubt a great fault with medical men, that they frequently injure the character of the hypotheses which they advocate by pursuing them too far. One more disease will be noticed in this essay, partly for the purpose of proving that the author is not blindly fond of his theory. The sympathetic nerve appears to be sometimes subject to a class of diseases entirely opposite in character to those of which the preceding pages treat. All our ideas have hitherto hinged on the fact, that this nerve is in a state of exalted action in many maladies, in which exaltation causes a diversion of nervous influence from other organs, leaving them in a state of weakened action or paralysis. On the contrary, it seems to be occasionally affected with a genuine paralysis of its own functions, or a state nearly approaching it.* Death from concussion of the stomach, or from an electrical discharge through the abdomen, afford examples of the total paralysis. The great oppression of respiration and the inexpressible anxiety attendant on retrocession of cutaneous diseases, appear to indicate a partial affection of the same kind. But it is amongst miasmatic diseases, in which the miasma appears to have an elective affinity for the sympathetic nerve, that we meet the

* Broussais has devoted a proposition to the proof that paralysis cannot be complete in the sympathetic nerve.

greatest number of proofs of this state of disease.* Let us pass by the cold stage of intermittent fever to come to the consideration of *Indian cholera*. All epidemics, at whatsoever avenue they approach the human system, are first discovered by developing their effects on the mucous membranes. In cholera, we have a general indefinable malaise, impaired appetite, and great disturbance occasioned by the ingestion of food. The vomiting and purging of serous matter is, for the most part, a leakage, a transudation from the internal exhalants, pointing out a total loss of that nervous energy which we suppose to preside over exhalation in health. This function is degraded, in fact, from a vital to a physical process; it may be considered a physical, but not a physico-vital exosmose. That nervous energy is lost, is further proven by the absence of general secretion. There occurs, however, a more important category of symptoms than any hitherto mentioned, which go to prove a weakened action in the heart and blood-vessels, from the paralysed state of the sympathetic nerve. These are the oppressed pulse, anxious respiration, thoracic, epigastric, and abdominal oppression, cold surface, bronze colour, dark hue of the blood, indicating deficient exposure to the air in the lungs, and total pulselessness. May not the gastro-intestinal redness found after death, be a mere stagnation of blood in the internal capillaries from the same cause? The laboratory of animal heat, which was supposed by Sir Everard Home to belong to the domain of the sympathetic nerve, appears in cholera to stop its operations; for in addition to a state of coldness and sedation almost universal, we have presented to us the singular anomalies of a cold breath, a cold tongue, and in the latter stages, even a cold epigastrium.

Such are the proofs of a paralytic state of the sympathetic nerve, to be derived from an examination of the organs of nutritive life in *Indian cholera*. We have contended in a former part of this essay, that it is in some diseases exalted from the character of a semi-conductor to that of a full conductor. It is probable that in cholera it is so paralysed, as to lose title even to the character of a semi-conductor; for whereas it formerly carried a part of the cerebro-spinal nervous principle into the internal organs, it now permits the whole of that principle to be expended on those parts of the animal economy more immediately under the dominion of the brain and spinal marrow. Hence it is, that nervous irritability is so much augmented, the senses become acute, noises are agonizing, the skin is ultra-sensitive to stimulants, while to the touch of another it ap-

* Authors make a distinction betwixt miasma or malaria, and the epidemic constitution of the air. Both sources of disease are here referred to.

pears to have lost all vital action. Neuralgic pains occur in various parts of the body, and tetanic spasms of the muscles coming on, do not even cease with life itself. To all this may be added the remarkably clear and undisturbed state of the intellect in the majority of cases.

The practical application of the foregoing thoughts is to be found principally in the former part of the essay, wherein is advocated the doctrine of hyper-irritation of the sympathetic nerve. The view taken of that doctrine shall not have been communicated to the medical profession in vain, if it shall have the effect of cautioning one single practitioner against the stimulating treatment in nervous diseases so called. In reference to the distinguished and unfortunate gentleman, whose case has here been reported, it only remains for the author to express his belief, that mucilage, local bleeding, proper counter-irritation, and an appropriate regimen, would have held out to him the best prospect of relief.

Tallahassee, Florida, June 28th, 1834.

ART. III. *Reports of Cases treated in the Medical Wards of the Pennsylvania Hospital.* [Part 1st. Typhus and Remittent Fevers.]
By W. W. GERHARD, M. D. Resident Physician.

THE Pennsylvania Hospital, at Philadelphia, contains about fifty beds for medical patients, besides a much larger number in the surgical wards, and about one hundred and twenty insane patients; of the last mentioned class, about thirty are under medical treatment. The number of medical patients is not usually quite large enough to occupy all the beds allotted to them, but the service is sufficiently extensive to furnish specimens of the disease incident to our climate. In the whole year the number of admissions of strictly medical patients is between three and four hundred.

The patients admitted into the medical wards are sailors belonging to the merchant vessels in the port of Philadelphia, or mechanics and labourers from the city and country. A part of the patients pay for their board and medical attendance, as in the French *Maisons de Santé*, but the greater number are admitted on the free list, and are supported by the funds of the hospital. The diseases of the seamen are usually contracted at sea, or in other ports of the United States or of foreign countries, and on this account offer a variety of disease not met with in hospitals exclusively appropriated to the poor of a

single city. The other patients offer the diseases incident to this section of the United States.

The regulations of the hospital exclude all diseases which are generally regarded as contagious, that is, measles, small pox and scarlatina; to avoid exciting popular prejudices, Asiatic cholera and yellow fever are classed amongst the contagious affections. Unless labouring under the above-mentioned diseases, sick seamen are by a special regulation always admitted without reference to the character of their malady. Many of the most fatal diseases are those of the sailors who have been deprived of medical attendance, and sometimes of the necessities of life, during a voyage of several weeks or months. The patients who are not seamen are admitted with certain restrictions. If their disease be such as to offer no probable prospect of relief, it is not deemed proper to admit them into the hospital except under circumstances of peculiar interest. For such patients another asylum is provided. This regulation restricts the admissions for pulmonary phthisis to a moderate proportion of cases, but the same rule excludes a much larger number of patients affected with emphysema of the lungs, diseases of the heart and other affections for which patients are admitted into the Parisian hospitals, and are discharged after a slight amelioration, until poverty again forces them to resort to a similar institution. Thus any diminution in the ratio of mortality which might be produced by the restricted admission of patients in the latter stages of fatal chronic diseases, is more than compensated by the exclusion of others whose diseases are of such long duration as to induce them to seek a new pretext for admission at every return of the inclement season. Acute diseases are admitted unless all the beds should be occupied.

The Pennsylvania hospital affords every comfort for the accommodation of the sick, the wards are good, every necessary is amply provided, and the grounds belonging to the hospital are more extensive and kept in more perfect order than those of any hospital in the interior of the cities of Europe or America that I have visited. The important auxiliaries, air and exercise, aid in the treatment of convalescents, or patients affected with chronic diseases, and add much to the comforts of the hospital.

The attending physicians of the hospital are Drs. OTTO, COATES, and RUSH; the attending surgeons, Drs. HEWSON, BARTON, and HARRIS. There are two resident physicians who attend alternately in the medical and surgical wards. The attending physicians visit every patient at least twice a week, but the daily treatment is directed by the resident physicians who must always have

completed their medical studies before becoming eligible for their situation. The position of the resident physicians gives them great facilities for the examination of the patients, and for observing the effects of the treatment which is conducted under their immediate inspection.*

The present report contains some of the cases of fever admitted into the hospital during the last seven months; with the exception of intermittents a note more or less detailed was made of all the cases. Some of the cases of intermittent fever were observed, but in others the observation was limited to a few points of the disease.

Fevers.—The whole number of patients admitted with fever during the eight months ending December 1st, was sixty-two. These cases were fourteen of typhoid fever, two bilious fever, eleven remittent, and thirty-five intermittent.

It is expedient to commence by the form of disease which has been most thoroughly studied, that is typhus fever, which of all diseases is the best understood since the publication of the admirable work of M. LOUIS. In the typhoid fever of the United States there are two important points to be ascertained; first, whether the disease is identical with the typhoid fever of Paris which was the subject of observation by MM. Louis and Chomel; and secondly, whether the disease is entirely distinct from the autumnal fevers of the United States. I have collected a sufficient number of observations during the past seven months to resolve these questions with probable correctness.

Of the fourteen cases of typhus fever, five terminated fatally, one of these a few hours after admission. In three of the fatal cases an examination after death could not be obtained.

CASE I. *Typhus Fever—Coma—Delirium—Dullness of Hearing—Vertigo—Tympanitis—Diarrhœa—Great Prostration—Sudamina—Ulceration of the Glands of Peyer—Softening and Increased size of Mesenteric Glands—Spleen firm.*—Ann ———, æt. 17, arrived at

* These facilities for observation induced the author to enter the institution at a more advanced period than is usual with applicants for such situations. The resident physicians of most hospitals in America, and of many in Europe, are very young men who have but just entered upon the duties of the profession, or have not yet completed their preliminary duties; their reports of cases are often regarded with some distrust, and must always be deficient in many important points. The feeling of distrust is not unfounded; the art of observation requires a long apprenticeship; he who has not passed through the period of preparation is not capable of accurately observing facts, and still less of making any useful deductions from them.

Amboy after a passage of seven weeks from Ireland, on the 3d of September, 1834. She had been unwell for eight or ten days before leaving the vessel, complaining of lassitude, indisposition to exercise, cephalalgia, some giddiness, but no ringing in the ears, nor epistaxis. Strength diminished, but she was not constantly confined to her bed, and immediately after landing made a journey of nearly seventy miles by the rail road and steam-boat from Amboy to Philadelphia. Anorexia, but no vomiting; bowels at first rather constipated, but slight diarrhœa two days before her entrance; no pain in abdomen; cough not remarked. On reaching Philadelphia in the afternoon of the 3d she was much exhausted, went immediately to bed, but took no medicines until three days afterwards, on the occurrence of the diarrhœa, and then only a dose of rhubarb. Anorexia; feebleness augmented; dizziness becoming extreme when she set up for a moment.

Entered September 7th, at 5 P. M.—She presented the following symptoms:—Hair and eyes black, the latter brilliant; moderate embonpoint; skin dark, rather dry; face generally a little injected and livid; lips dark-coloured; decubitus dorsal, indifferent. Great feebleness, seems quite exhausted, although almost carried to the hospital by two men from her lodgings a short distance from it. Intelligence good, but rather dull; agitation; almost delirium during the night; cephalalgia great; no ringing in ears, but dizziness if she attempts to rise; hearing and sight good; sleep disturbed; voice natural. Tongue moist, whitish at the centre, and rosy at the edges; no bad taste in the mouth; deglutition natural; thirst great, complete anorexia, nausea, but no vomiting; three or four liquid stools in the last twenty-four hours; pain in the abdomen above the umbilicus augmented by pressure. Abdomen very sonorous on percussion, a little distended, gurgling of a gas felt on pressing with the fingers; no tumour perceptible in any part; no rose-coloured spots; a few sudamina visible at the neck only; no cough; respiration twenty-eight per minute, vesicular throughout the lung, without rhonchus; pulse 104, rather full and undulating, with little force; skin hot and dry. (Soda water; effervescing draught $\frac{z}{ss}$. every hour; barley water; flaxseed enemata every three hours; venesection.) A vein was opened and about four ounces of blood obtained with difficulty, when she complained of sickness and weakness. Five or six ounces of blood were then obtained from the temples and back of neck.

8th. Slept quietly immediately after the cups, which were applied in the evening; face less flushed; no cephalalgia, but ringing in ears for the first time, and great vertigo.

On the 9th the hearing became very obscure, and with occasional changes continued very imperfect, so much so that questions were not answered unless addressed in a loud tone of voice, and after rousing the patient.

On the 13th coma much more profound; decubitus dorsal; eyes closed; pupils largely dilated, even if exposed to a strong light, but contracting a little when a candle is brought near them; no strabismus; no answers to questions; skin hot and dry; face much flushed; respiration high, difficult, almost stertorous, thirty-two inspirations per minute; no rhonchus, except a little mucous at the base of each lung; pulse undulating, moderate volume, 108; abdomen still tympanitic, grimaces if pressure be made at the epigastrium; stools only after the injections, brownish, not copious; cough rare, dry; twenty leeches behind the ears; blisters to each ankle after a mustard foot bath; effervescing draught. The leeches, with the subsequent bleeding, drew eight ounces of blood; no consciousness of their application was perceived. In the evening eight ounces more of blood were taken by cups to the temples and back of the neck. After the cups restoration of intelligence, short answers could be obtained, and once or twice a remark was made by the patient.

The hearing was a little better on the 14th, and decidedly improved on the 15th, when she answers without so much difficulty. The pupils had become natural on the evening of the 14th; hearing and sight apparently good; occasional complaints of cephalalgia; face flushed, either on one or both cheeks at irregular intervals, the redness livid, and disposed in large rounded patches, including the greater part of the cheek, and then suddenly disappearing. Delirium in the nights of the 15th and 16th for the first time; no convulsions or rigidity of the limbs; the tongue was moist and whitish until the 15th, when it was rather dry, but never brown or black. Teeth dry, but not fuliginous; thirst always great; anorexia complete for all solid food; she took chicken soup with pleasure, but refused any stronger nutriment, rejecting even the essence of beef or a custard. Profuse involuntary discharges in the night of the 13th; stools black, fetid, and very frequent; two or three dejections of similar aspect on the 14th, and several during the 15th; one or two on the 16th, but brownish; none on the 17th. The tympanitis continued without diminution nor increase; no tumour or flatness on percussion in the region of the spleen, the days on which this examination could be made. Tenderness at the epigastrium wanting after the 15th; urine always passed without difficulty; the pulse, which during four days had never varied more than four pulsations from 100, increased gra-

dually to 120, and on the three last days it was at 110, 130, and finally 160 per minute; the force of the pulse was never great, at first undulating, but soft; smaller and weaker on the 14th; continuing small and weak until the 17th, when its volume and force were a little increased. The respiration was always high and laboured, notwithstanding the absence of all physical signs of disease other than a slight mucous rhonchus, its frequency increased in the last three days sometimes to forty inspirations per minute; stertorous on the 17th.

17th. Coma profound; face deeply flushed in both cheeks, dark red, almost purple; no answers to questions; pulse small, rather weak; abdomen as before; respiration stertorous. Twenty leeches were applied to the temples. She showed some signs of intelligence during their application; raised her hands to her head; but gave no other signs of consciousness. Deglutition still possible. Death at 11 P. M.

Autopsy, September 18th, ten hours after death. Exterior.—Face slightly livid; abdomen distended with gas; slight emaciation; no infiltration; marked rigidity. On the legs, and back of the neck, are brownish, dry, blistered surfaces.

Abdomen.—Small intestine distended by gas, pale externally, with reddish brown patches near the valve, containing in its whole extent a moderately thin yellow liquid. Mucous membrane in the upper half pale, with a slight tinge of the contents, no trace of redness, firm, semitransparent, yielding strips eight to twelve lines in length. Inferior half at first of the same colour as the superior, but in the ileum it becomes of a dirty orange colour, rather thickened, and of pulpy consistence. The same appearance of the membrane is found throughout, except near the valve, where the redness is more intense, and the softening at least as great. On the side of the intestine opposite to the mesentery, but above the glands of Peyer, are three patches of a pearl colour, an inch and a half, or two inches long, and of half that breadth; on these patches no mucous membrane can be detected. The first gland of Peyer is small, reticulated, and yellowish. The second is more prominent, red, and offers one ulceration a line broad, with rounded, but not regularly smooth edges; in the same gland there is a very minute yellow granulation, (not tuberculous.) Inferiorly the glands are increased in thickness, of a dark red colour, and excepting one, are ulcerated. The ulcerations are the largest and the most numerous, as they are near the end of the ileum. The large gland near the ileo-cæcal valve is three inches in length, and offers eight or ten ulcerations, the largest three lines in diameter, with irregular excavated edges, under which the

handle of the scalpel can be passed. The base is formed by reddened cellular tissue; the edges are red, thickened, but not hardened. The largest ulceration contains in its centre a yellowish mass, as if removed by a punch from the edges, adhering closely to the sub-mucous tissue, (apparently a slough of the mucous tissue.) The glands, which are less extensively diseased, are red and thickened, the increased thickness extending to the sub-mucous tissue, and the thickness of these coats is, at leasts three times as much as natural; but in none of the glands have the ulcers extended to their whole surface. Isolated follicles, (glands of Brunner,) numerous in the last two and a half feet of the intestine, more prominent near the valve, where they present a distinct central point; in a few the central depression includes nearly the whole diameter of the follicle.

Mesenteric glands not exceeding the size of a hazel-nut, but rather larger than usual, softened, infiltrated with serosity, and of a pale ashen colour.

Large intestine much distended with gas, containing a yellow pulpy liquid; mucous membrane in cœcum and ascending colon of a general deep red colour, formed by numerous arborisations, chiefly confined to the mucous coat; the vessels are most numerous in the ascending colon; thickness nearly natural, but consistence diminished; strips six to nine lines in length. In the rest of the large intestine the mucous membrane is merely stained by the contents, or of a dark red colour from the numerous arborisations; consistence less than in the upper part, but in no place pulpy; follicles visible throughout, especially in the cœcum, where some are a line in diameter, with a distinct central point, but not ulcerated.

Stomach much contracted, containing a dirty gray liquid; great tuberosity grayish; a few arborisations in the mucous coat, and a few bluish veins beneath it; consistence perfect; strips four or five lines long. In the pyloric two-thirds of the stomach the mucous membrane is much corrugated, of a dark red colour, disposed in dots or arborisations. In the small curvature the membrane is thickened, and of diminished consistence; strips six to eight lines in length; near the pylorus it adheres very firmly, and can scarcely be torn up. *Spleen* six inches in length, five broad, and one and a half thick, of a dark red chocolate colour, but perfectly firm. *Liver* reddish brown colour; the two substances not distinct; containing little blood; firm. *Bile* very pale, but abundant. *Kidneys* firm, reddish, gorged with blood. *Bladder* not distended.

Head.—Dura mater adhering strongly to the cranium; little blood on its external surface; arachnoid moist, containing little serosity in

the great cavity, and not much below it; moderate and general injection of the pia mater confined to the smaller vessels; cortical substance grayish rose-colour; medullary rather more dotted with minute red points than in the majority of subjects, but firm; ventricles each containing two drachms of limpid serosity; central parts white and firm; cerebellum, annular protuberance and medulla oblongata firm, moderately injected; one to two ounces of serosity at the base.

Thorax.—Lungs not adherent; vesicles not distended; no trace of tubercles or granulations in any part; inferior lobe of each lung moderately engorged and infiltrated with reddish serosity, but not hepaticized; bronchia containing mucus, rosy, transparent, not dilated; bronchial glands black, small, and firm. *Heart*, muscular tissue red, of good consistence; liquid blood in each cavity; valves flexible; aorta pale.

Observations.—The subject of this case was a young girl who was taken ill on the passage from Ireland, after suffering the necessary privations of a steerage passenger. She was the only person ill on board the vessel, and there had not been any severe diseases amongst her fellow passengers, the affection therefore originated at sea without the existence of a prevailing disease. The duration of the complaint was about twenty-three days. The earliest symptoms were slight; cephalalgia; dizziness, but neither epistaxis nor ringing in the ears; great diminution of strength. On the 15th day the hearing was imperfect; on the 19th coma more or less intense until death; ringing in the ears on the 14th; on the 21st delirium for the first time. The symptoms just mentioned are those of the cerebral system, it is clear that the gradually increased severity of these symptoms could only belong to typhoid fever, or to a disease of the brain or its membranes. Cerebral symptoms occur very frequently in pneumonia and other acute diseases, but they never present the same continuance throughout the disease, or so early an origin. The diseases of the brain in a few rare instances, as softening of the central medullary parts, might be confounded with the symptoms of typhus fever, but the signs afforded by the abdominal viscera would remove the difficulty in the diagnosis.

The abdominal symptoms were at first constipation, followed by diarrhœa on the 11th day, lasting two days, then ceasing until the 17th day, when profuse black liquid stools were voided; the next day there was some amelioration in the cerebral symptoms; complete anorexia, but no vomiting during whole disease; tympanitis was observed at her entrance, and continued during the remainder of the disease, of course its origin could not be ascertained. The tympanitis was recognised by the great resonance on percussion, the distention

of the abdomen and a sensation of gurgling on pressing with the fingers. The tongue was moist and whitish until the beginning of the twenty-second day.

At her entrance the cough was slight, it continued during the whole disease, and increased but little; no sibilant or sonorous rhonchus was heard, at any time the chest was examined. The "taches roses" of M. Louis, or little rose-coloured spots, slightly prominent, of a rounded or elliptical form, and found chiefly on the abdomen and thorax, are met with in nearly every case of typhus fever; none existed in the patient at the time of her entrance or afterwards; it was impossible to ascertain whether they had disappeared before coming to the hospital. The sudamina or minute vesicles filled with a perfectly limpid serosity, are not peculiar to typhoid fever, but are more constantly found in this affection than in any other. These vesicles are of shorter duration than the rose-coloured spots; they disappear after two or three days, leaving a minute white scale, and are again reproduced at a later period of the disease. In this patient they were present, but not numerous.

The anatomical lesions were the last point wanting to complete the identity between this disease and the typhoid fever of France. At Paris the alteration of the glands of Peyer has been found in every well authenticated case of typhus fever. It is true that there is not a direct proportion between the severity of the symptoms and the extent of the lesion of these glands; in some cases the alteration of the glands was limited to a small number of these organs; in others the ulceration was very deep and extensive. One case occurred at La Pitié in which the symptoms of typhus fever were unequivocal, and but one gland of Peyer was affected; this was however an exceptional case; no similar fact is on record. In the case which I have given, the disease had advanced to the ulcerative period; in one of the glands there was a mass of yellow substance, the edges of which were detached from those of the ulceration in which it was placed; from the appearance and the position of this substance, there was strong reason for thinking that it was a slough of the mucous membrane. The ulcerations were rounded, probably from their origin in the follicles composing the gland; these rounded separate ulcerations afterwards coalesce, and the whole extent of the gland may be involved. In one of the glands there was a yellowish granulation in a follicle; this yellowish matter is generally more distinct; in many subjects it infiltrates the whole gland, which is softened, and on pressure yields a creamy fluid. The cellular substance beneath these infiltrations is red and thickened, but in some cases it is per-

forated by the increase of the ulceration; the peritoneal coat may also be involved, and a perforation into the cavity of the peritoneum take place. This alteration of the glands of Peyer,* (thickening, with or without redness and softening of the mucous membrane, with increased adhesion to the cellular substance, which is also thickened,) is peculiar to typhoid fever. In tuberculous diseases a deposit of tuberculous matter frequently takes place in the follicles composing the glands of Peyer, and after a certain period produces ulceration of those follicles gradually extending to the whole gland itself; but in these tuberculous diseases, the edges of the ulcers are grayish, hard, and rounded, not excavated or softened, and but rarely of a reddish colour; tubercles are also found in the follicles not ulcerated, and in other viscera. In the exanthemata there is sometimes a lesion of the glands of Peyer, but not in more than a fifth or a sixth of the cases, and the disease does not extend to the cellular coat, nor are the glands often ulcerated.

The lesion of the mesenteric ganglia observed in the case detailed, was probably a consequence of the affection of the intestinal glands, and as is usual, it was observed in the ganglia nearest the ulcerations. The spleen is generally found softened and enlarged in typhus fever; in this case it was enlarged, but firm; the disease was of more than three weeks standing, and the alteration of the spleen is not constantly found after the earlier periods of the affection. The lesions of the glands of Peyer, of the mesenteric ganglia, and of the spleen, constitute the peculiar anatomical character of typhus fever. But are the lesions the cause or the effect of the disease? The opinion of M. CHOMEL is, that they are an effect rather than a cause, and the weight of evidence seems to favour this view, which is much more probable since the occurrence of the case alluded to in the wards of M. LOUIS at La Pitié. Still it is interesting and important to know that the lesions of the glands of Peyer are peculiar to this disease, and as a general rule, are in proportion to the duration of the disease. The stomach was softened and injected in the pyloric two-thirds. The large intestine was also diseased, but with the exception of a

* Most of our readers must be aware, that the glands of Peyer, or as they are often called in French, (plaques elliptiques de Peyer,) elliptical plates of Peyer, from their shape, are the pale or grayish elliptical clusters of follicles found in the small intestine on the side opposite to the mesentery, almost always confined to the ileum, and generally increasing in number and size on approaching the ileo-cæcal valve. The glands of Brunner are the isolated glands found at both extremities of the small intestine, but rarely visible in the intermediate space. The glands of the large intestine are always isolated.

more vivid injection of the brain than usual, the other viscera were nearly in the normal state.

CASE II. B. aged twenty-one, farmer, born in Ireland, living for more than a year in the neighbourhood of Philadelphia. Entered September 26th. Has been ill for four weeks; was better, but had become much worse a few days before his entrance; has diarrhœa, but has taken several doses of purgative medicine. No further details could be obtained.

Present state, 26th.—Moderate emaciation; skin of a pale, dirty hue; lips pale; stupor, with occasional delirium, and efforts to rise from his bed; prostration extreme; decubitis dorsal, abandoned; pupils rather dilated, but contractile; no answers to questions; tongue dry and brownish; teeth fuliginous; deglutition easy; tympanitis, but not great distention of the abdomen; rose-coloured elliptical spots, a line in length, moderately numerous at the lower part of the abdomen, slightly elevated, and readily disappearing upon pressure, but again returning; some sudamina at the groins; skin hot and dry; subsultus of the tendons of the wrist. Pulse 108, feeble. Six cups to the head. One grain of sulphate of quinine every hour in solution. Effervescing draught, $\mathfrak{z}\text{j}$. every two hours. No perceptible change after the cupping, except rather great feebleness of the pulse.

27th. Countenance more haggard; livid redness of both cheeks; lips dry, dusky red; eyes dull, pupils equal, natural; nostrils dry; mouth slightly drawn towards the left side. Subsultus frequent; floccitation, but less than at entrance. Answers vague, irrational; low muttering delirium. Occasional and slight rigidity of the left arm; coma nearly perfect; tongue brownish, dry, protruded with difficulty; deglutition easy; thirst great; anorexia. Tympanitis continues; rose-coloured spots still distinct. Three liquid yellowish stools in twenty-four hours, one involuntarily, but at the other times he made an effort to rise, and was placed by the nurse upon the chair. Skin dry, moderately warm; no sudamina, but cuticle detached at groins in little flakes. Pulse feeble, small, 112. Respiration high and blowing. Sibilant and sonorous rhonchus in both sides of the chest anteriorly. Wine whey; effervescing draught. In evening pulse 116. Three voluntary liquid stools in the afternoon.

28th. Same muttering delirium; sleep bad; occasional efforts to rise; decubitis dorsal; countenance still flushed; tongue as before; tympanitis not changed; one stool; deglutition still perfect; sonorous and sibilant rhonchus in chest. Pulse 116, small, and feeble. Respiration high, 30. Wine whey; eight or ten ounces of wine in twenty-four hours. Continue quinine mixture; chicken water.

On the 29th no stool; same feebleness of pulse; no answers obtained; doubtful rigidity at elbows.

On the 30th, and 1st of October, the coma was more profound, but deglutition still practicable. Blisters were applied to the legs, but the coma did not diminish. No return of the diarrhoea; floccitation continued.

Death on the morning of the 2d of October.

Autopsy, twelve hours after death.—*Abdomen.* Stomach distended by a thin, dark-green liquid. Mucous membrane generally of a dirty-white colour, with numerous red arborisations scattered abundantly over the whole surface in nearly equal abundance. No evident mammillation; strips of the usual length; thickness generally slightly increased.

Small intestine.—Upper half containing a greenish mucus, moderately thick, tinging the mucous membrane slightly; no vascular ramifications; strips six to eight lines in length, thin, easily detached; inferior half containing a darker green liquid; mucous membrane offering numerous vascular arborisations, varying in colour, in some spots nearly black; thickness a little greater than usual, but consistence not materially diminished; strips three to four lines long near the valve, rather longer elsewhere. Glands of Peyer, the first two or three offer no alteration other than a slight increase of thickness, and a dirty white tinge, but retaining their usual reticular appearance. The next glands, to the number of eight or ten, were thickened, of the same dirty white colour, some of them reddish with the surrounding mucous membrane; each of these glands presented from one to three ulcerations, rounded, with central depressions, varying from half a line to two lines in breadth, the edges are elevated, a little excavated, but not hardened, the base formed by the thickened cellular tissue. The remaining agglomerated glands, more than twenty in number, were all ulcerated in nearly their whole extent; in two of them, one immediately contiguous to the ileo-colic valve, and the other six inches above it, the ulceration was between two and three inches in length. The ulcerations were all nearly similar in appearance, of a deep red colour, more intense than that of the adjoining tissue; the base in a few, formed by thickened reddish cellular substance, but in much the greater number by the muscular fibres, in part destroyed, and of a dark livid red colour; in two of the ulcerations the muscular coat was nearly destroyed. The edges of the ulcers were formed by the mucous membrane, much thickened, of a dark red colour, and detached from the cellular coat in the breadth of half a line to a line. The isolated follicles were

visible in the last two feet, but rare, and without exception, were more or less altered. Some appeared as rounded or pointed elevations, more than double the thickness of the surrounding membrane, and of a darker livid colour; others were ulcerated in the breadth of one to two lines; the ulcers were rounded, with elevated, but not hardened edges.

Mesenteric glands.—Those corresponding to the inferior half of the ileum, are three or four times the usual size, (large as almonds,) livid and softened; the others are smaller and less softened.

Large intestine not distended, containing soft fœcal matter; the mucous membrane is of a reddish colour in the cœcum and ascending colon, from numerous arborisations, and of the same colour, in large irregular patches afterwards. Consistence slightly diminished in the cœcum only; in the rest of its extent the thickness of the mucous coat is natural, and strips eight to ten lines in length. Mesocolic and other abdominal glands livid, enlarged, and a little softened. *Spleen* five and a half inches long, and four broad, firm, and of a dark red colour. *Liver* firm, brown; bile greenish. *Kidneys* firm and brown.

Thorax.—Lungs slightly congested with blood posteriorly, but throughout crepitant; not emphysematous, without granulations or tubercles. Bronchial glands not tuberculous; bronchia containing some mucus, but not thickened, of a livid red colour. Heart firm; good colour; internal surface of aorta pale.

The circumstances under which the autopsy was made, prevented an examination of the head or neck.

Observations.—The preceding cases both present examples of the characteristic lesions of typhus fever. In the second case, which was of longer duration than the first, the ulcerations were more extreme, and sufficiently deep to involve the muscular coat. The mesenteric glands were also diseased, and the spleen large, but not softened. The three other cases* which terminated fatally, were not examined. One of the three, was that of a young man, who was brought to the hospital in a state of profound coma; he expired thirty-six hours after his admission; no details could be obtained, except that he had been ill about three weeks. At his entrance the abdomen was extremely distended with gas; an abundant eruption, both of sudamina and rose-

* By the regulations of the Pennsylvania Hospital, no body can be examined without the consent of the friends of the dead. In a majority of cases this consent may be obtained, but it is rarely possible to obtain permission from the ignorant emigrants, who are most exposed to typhus fever.

coloured papules, was observed on the abdomen and thorax; the skin was hot and dry; pulse frequent; coma profound. The second patient had been ill nine days before his admission; the total duration of the disease was sixteen days; in this case there was diarrhœa, tympanitis, coma, delirium, pulse extremely frequent, sudamina, but no rose-coloured papulæ. The third case occurred in the month of November; the patient was ill more than three weeks; the disease had begun ten days before his entrance; the delirium at first was slight, but the prostration considerable; face generally flushed; subsultus tendinum; cough frequent, sonorous and sibilant rhonchus; diarrhœa; tympanitis extreme; abundant eruption of rose-coloured spots and of sudamina on the thorax and abdomen; frequent pulse; high and frequent respiration. These symptoms had become less intense, especially the tympanitis, which had disappeared in great part. The rose-coloured spots, which were visible at his entrance, were nearly effaced before death. A few hours before death, the respiration became hurried; pulse extremely frequent; face livid; perspiration profuse, with deep coma. The treatment was at first cupping to the head, (℥x. or ℥xij. of blood;) sponging with a weak solution of chloride of soda at least once a day, and sometimes twice; enemata of flaxseed daily; the internal administration of a solution of chloride of soda in doses of twenty and twenty-five drops every three hours.* Diet of chicken water and essence of beef, with occasionally a biscuit grated into the chicken water. No diffusible stimulants were directed. Blisters were applied on the last day.

The subjects of the five fatal cases were all Irish emigrants; four of them had been in the country but one or two months before the beginning of the disease; one case began on shipboard. The average of their ages was twenty years; four of the patients were men.

I shall next examine the anatomical lesions presented by two cases of autumnal remittent fever, and afterwards compare the symptoms of this affection with those of typhus fever.

CASE. III. *Remittent Fever, originating in North Carolina*.—John Forrest, seaman, æt. 17, entered August 19th, 1834; born in Ireland, but has been more than five years in America. For the last four years he has been a seaman, chiefly on voyages to the West Indies and coasting; does not recollect ever having been sick. His last voyage was to Wilmington, (North Carolina;) on his passage home, seven days from that port, he was taken ill, (on the 15th.) At beginning, cephalalgia; fever, but no chill; occasionally perspiration,

* This solution is that of Mr. Durand of this city; it is about twice as strong as that of Labarraque.

but no distinct interval without fever; no vomiting; bowels open once or twice daily; stools not liquid.*

20th, present state.—Decubitus dorsal; countenance dull; lips pale; answers correct; no delirium; great prostration, but easily roused from it; cephalalgia, but less than at his admission; conjunctiva rather yellow; tongue rather pale, coated posteriorly; skin dry and warm; slight tenderness at pressure on epigastrium; no nausea, vomiting, or anorexia; no pain in abdomen; frequent stools after a Seidlitz powder taken this morning.

Continue neutral mixture, $\frac{z}{ss}$. every two hours. (In evening of yesterday took five grains of mass. ex. hydrarg.) Tinct. opii gtt. xx.

21st. Increase of stupor, with delirium occasionally, when roused says that he has no pain; fretful when questions are asked; relapsing again into a state resembling prostration rather than stupor; decubitus still dorsal, abandoned; countenance pale, no lividity; hearing and sight natural; skin moist, and natural temperature, except the head, which is rather warmer than the rest of surface. Respiration 30. Pulse 100, rather feeble. Two discharges from the bowels. Continue neutral mixture; wine whey.

22d. Prostration continues, but roused when questioned in a loud voice; pupils a little contracted; tongue moist; two dejections. Pulse 140, very feeble. Dry cups to the head, with blister over whole scalp. Evening. Pulse more frequent, and very feeble, impossible to count it; coma very marked; skin moist, rather cool; diarrhoea slight; same contraction of the pupils.

Death at 10 P. M.

Autopsy the 23th, at 7 A. M. Exterior.—Moderate emaciation; lividity of posterior parts of the body; rigidity of upper and lower extremities.

Abdomen.—Stomach; general colour of the mucous membrane grayish, a little slate-coloured; bright arborisations in the small curvature; decided mammillation in the whole of the large curvature and the adjoining surfaces; thickness a little increased in the mammillated portion, but consistence natural; strips of the usual length.

Small Intestine.—Mucous membrane without bright redness in any part of its extent, pale, or little grayish; detached with the usual facility, (strips five to seven lines,) except near the ileo-cæcal valve. Thickness natural; glands of Peyer were examined with great care,

* For the notes of this case, except the autopsy, I am indebted to my colleague, Dr. Kirkbride. I examined the symptoms of the patient more than once with him, and found neither the rose-coloured papules nor sudamina. Tympanitis was either slight, or entirely wanting.

but presented no appreciable lesion, they were reticular, very slightly elevated, grayish, neither injected, nor thickened, nor ulcerated; isolated follicles scarcely visible. Mesenteric glands small, firm, grayish.

Large intestine containing a little liquid; mucous membrane without bright dotted redness, grayish, of a deeper colour in patches than elsewhere, slightly increased in thickness, and evidently softened in its whole extent, more in the cœcum than inferiorly, where strips two or three lines long may be obtained; in the upper parts the membrane is nearly pulpy. Spleen seven inches long, five broad, and two and a half thick, of a dark blue colour, but of moderate firmness. Liver brown, firm, not very much engorged; bile abundant.

Thorax.—Lungs containing air in their whole extent, slight engorgement in their posterior part; no trace of tubercles or hepatization. Heart firm; aorta pale.

Head.—Longitudinal sinus empty; moderate serosity in arachnoid. Brain pale, good consistence; two ounces of serosity at base of brain and ventricles; central parts firm.

Observations.—This case is not so much detailed as is desirable, but much care was taken to ascertain the points of connexion between the disease and typhus fever. There was prostration rather than stupor, but the intelligence was perfect when the patient was a little roused; no diarrhœa until he took the Seidlitz powder. The anatomical lesions were examined with great interest; the glands of Peyer and the small intestine generally, were without traces of lesion. The mesenteric glands were also perfectly sound, their state corresponding to the natural appearance of the glands of Peyer. The spleen was much enlarged, but not softened. The stomach presented some evidence of disease.

CASE. IV. Samuel —, æt. 23, seaman, entered September 15th, 1834. At his entrance extreme prostration; almost perfect coma; no answers in speaking loudly to him; pupils dilated; decubitus dorsal, perfectly abandoned; respiration stertorous, high; deglutition scarcely practicable; sensibility of surface imperfect; skin still warm; pulse very frequent and feeble; abdomen not distended; no rose-coloured papules nor sudamina.

Sinapisms to epigastrium, arms, and legs. The sinapisms reddened the skin; speech recovered sufficiently to complain of the smarting; deglutition sufficiently good to swallow a little wine whey. In night profound coma and stertorous respiration. The following note was obtained from his fellow seamen and landlord. He was one of a crew of eight officers and men arrived from Wilmington, North Carolina; six of the eight were taken ill; four of them, besides

himself, are now in the hospital. On the 8th he reached Philadelphia in perfect health; on the 9th and 10th felt unwell, but remained at his boarding house without being sufficiently ill to alarm himself or his landlord, until the morning of his entrance on the 15th. The stupor became intense while on his way to the hospital in a carriage.

Autopsy, September 17th, eighteen hours after death. Exterior.—Body muscular, height above middle; general yellow colour of the skin; rigidity of all the limbs, especially the right arm; lividity slight in posterior part of body; no infiltration.

Abdomen.—Stomach of moderate size, containing about three wine-glassfuls of turbid, greenish liquid. Anterior face; in the great tuberosity, and nearly the whole cardiac half, the mucous membrane is of a dirty, greenish colour, irregularly diffused; no bright injection, or even sub-mucous vessels; the membrane is very thin, almost wanting in one or two irregular spots, from four to seven lines in diameter, where it is of pulpy consistence. In the pyloric half the membrane is mammillated, a third of a line thick, of a dark greenish-brown colour, firm, giving strips of six to eight lines in length, with numerous red points in the thickness of the mucous coat. Numerous little rounded spots, without elevation of the edges, or change of colour, were visible upon holding this portion of the stomach before the light; these spots were depressions of the mucous coat, but without its complete destruction in any one of them. The posterior face offers the same obscure tint in the great tuberosity, but less distinctly than on the anterior face; the pyloric portion is similar in all respects to the part already described. In the small curvature the strips are fifteen to eighteen lines in length, but thickened and mammillated.

Small intestine moderately distended, containing a greenish ash-coloured liquid, tinging the mucous membrane, which is neither injected, nor thickened, nor opaque; consistence perfect; strips easily detached six or seven lines in length in the superior three-fourths, more adherent inferiorly, where they are only three to five lines long. Glands of Peyer very rare, less distinct than in the majority of subjects, visible only in the inferior sixth of the intestine, pale, reticulated, and visible only by a careful examination. Isolated follicles rather numerous in the last two or three feet, not larger than mustard seed, without central points.

Mesenteric glands pale, softer than usual, the largest not exceeding the size of a hazel-nut.

Large intestine moderately distended, containing a yellow pulpy matter. Mucous membrane in its whole extent of a general red colour from numerous fine arborizations, about equally numerous in

every part of it; softened throughout; strips in cœcum and ascending colon five to seven lines long; in the inferior part of the intestine a little less, but not pulpy. Follicles in upper half numerous, slightly prominent, with a grayish central point, not larger than a mustard seed; in the lower half no traces of follicles can be seen, but numerous whitish or grayish spots from half a line to a line and a half in diameter, not depressed, nor wrinkled, but evidently thinner than the rest of the intestine, (probably cicatrices of ulcerated follicles.) Spleen enlarged, six and a half inches in length, five broad, and three in thickness, very black, of pulpy consistence, yielding an abundant black liquid on simple incision, and crushed on slight pressure. Liver of the usual size, flaccid, of a pale ashen colour, containing little blood; the two substances not distinct. Bile greenish, not abundant. Kidneys of the natural size, pale, slightly tinged with yellow. Bladder contracted. Pancreas firm, white. Lymphatic glands of the abdomen pale and soft.

Thorax.—Right lung not adherent; no serosity in the pleura. Lung throughout whole extent soft, containing air, of a bluish colour, especially in its posterior part; moderate engorgement, with reddish serosity in its posterior part; no traces of tubercles or granulations; a little interlobular emphysema along the anterior margin of the upper lobe. Bronchia transparent, rosy, containing little mucus. Left lung, loose cellular adhesions at its anterior margin; appearance of the lung in all respects similar to that of the right, but without emphysema. Bronchial glands blackish, very small. Pericardium containing two to four drachms of serosity. Heart rather small; tissue rather soft, of a dirty grayish colour. A very small fibrinous coagulum in the right cavities, a little liquid blood in the left. Aorta of a general slight orange colour internally. Trachea and larynx rosy, not ulcerated. Pharynx rosy, containing numerous follicles. Œsophagus pale.

Head.—Little or no blood on the exterior of the dura mater; some liquid blood in the sinus. Arachnoid moist, not infiltrated. Pia mater moderately injected; no congestion of the large vessels. Cortical substance throughout whole brain of a leaden or violet colour, which extends in a slight degree to the medullary portion; consistence perfect. Ventricles containing one to two drachms of limpid serosity. Central parts firm and white. Cerebellum and annular protuberance firm; similar in colour to the rest of the brain.

The nature of the disease in this case was in part determined by the symptoms presented by the other patients, (four,) received from

the same vessel. A circumstance much to be regretted is the want of positive knowledge as to the previous health of the patient: it would have been interesting to know whether there had been long-continued diarrhoea which might have explained the lesion of the follicles of the large intestine. There was certainly no disorder of the man's health sufficient to attract the attention of his comrades until after his arrival in port; although several of them were taken ill at sea, and the attention of those who were well was of course strongly directed to the subject. In this case, as in the preceding one, there was not the slightest alteration of the glands of Peyer. The glands of the abdomen were softened, but not much enlarged. The lesion of the spleen was more marked than in the other case of remittent fever; it was softened, as well as enlarged. The stomach was also much altered from the natural state.

The lesions presented by these cases establish one fact of interest; that is, the absence of disease of the glands of Peyer in the remittent fever of the coast of North Carolina. The characteristic lesions in this form of disease cannot be ascertained from so small a number of cases; it is however probable that the enlargement of the spleen will be found as constantly in remittent as in typhus fever. It is possible that the stomach is affected more frequently in cases of remittent than in those of other fevers.

Reference was made to the work of M. Louis on typhus fever; this work contains the most perfect description of the disease; but in a very recent publication, M. Louis has given a tabular view of the symptoms observed in seventeen cases of typhus fever which were cured, and has compared these symptoms with those of common enteritis. This table I have translated, but in place of the second column containing the symptoms of enteritis, I shall introduce a tabular view of the nine cases of typhus fever observed at the Pennsylvania Hospital, and followed by recovery; a third column will contain the symptoms witnessed in the successful cases of remittent fever. The late period at which many of our patients entered the hospital, renders it probable that some symptoms may have disappeared before their entrance; hence the number of cases in which a symptom was not found, may be a little less than the real proportion. The table indicates the group of symptoms to which the name typhus, or typhoid fever is now restricted by a majority of pathologists.

Seventeen Cases of Typhus Fever.
By M. Louis.*Nine Cases of Typhus Fever, observed at the Pennsylvania Hospital.**Eleven Cases of Remittent Fever, at the Pennsylvania Hospital.*

Fourteen times in fifteen cases, from the 1st day in ten, from the 2d to the 4th in four.
Six to ten stools in five cases, less in the others.
Duration equal to that of the disease in one case; in three, longer; in eleven, a little less.

1. *Diarrhœa.*

In eight cases, five times; in three, from 1st day.

Once in seven cases.

2. *Pains in the Abdomen.*

Eight times in eleven cases, from the 1st day in five cases, from the 4th in three; like pain of colic in two cases, without particular character in the others; never intense.

Five times in eight cases; in two of the three others, soreness or sensation of heat.

Twice in six cases.

3. *Tympanitis.*

Twelve times in seventeen cases, moderate, ceasing before the diarrhœa.

In every case; in three of them but slight.

In one case, considerable; in another slight; none in other cases.

4. *State of the Spleen.*

Felt beyond the ribs, in eleven cases out of fifteen; and in three of the four others there was flat sound in the part of the thorax, corresponding to the spleen.

Increased size of the spleen, from the 5th or 6th day, to two days before convalescence.

Felt distinctly in two cases of seven; in three of the other four, dullness on percussion of the left short ribs.

Flatness in nearly half the cases.

5. *Epigastrium.*

A little painful in one case during the cough.

Slightly painful in two cases.

Tender in more than half the cases.

6. *Nausea.*

In one case.

In nearly half the cases.

In every case but one.

7. *Appetite.*

Entirely wanting, from beginning until near convalescence.

Wanting in all cases, until near recovery.

Wanting in all cases.

8. *Tongue.*

Thick and dry in three cases; red and dry in two others; black and dry in one case, from the 13th to the 29th day.

Brown or purple, and dry in two cases; red and dry in two others; whitish and furred in four.

Brownish in one case; whitish or rosy, and moist in the others.

9. *Cephalalgia.*

In all the cases at the beginning.

In all the cases but one.

In all the cases, until before convalescence.

10. *Somnolency.*

Considerable in five cases; very slight in the others.

In three cases, very considerable; slight or wanting in the others.

Considerable in one case; slight or none in the others.

11. *Intelligence.*

More or less altered, without agitation, in four cases; altered, with agitation, in two cases.

Delirium, with agitation, in three cases; without agitation in two.

Slight delirium in one case.

12. *Strength.*

In three cases, confined to bed from beginning.

In two, obliged to quit work.

In two, extreme feebleness, but at a later period.

Extreme feebleness in all but two.

In two, confinement to bed from the first day.

Great prostration and confinement to bed from first, in all but two cases.

13. *Dizziness.*

In the six cases, where mentioned.

In six cases, considerable.

In five cases.

<i>Seventeen Cases of Typhus Fever.</i> <i>By M. Louis.</i>			<i>Nine Cases of Typhus Fever, observed at the Pennsylvania Hospital.</i>			<i>Eleven Cases of Remittent Fever, at the Pennsylvania Hospital.</i>		
In one case, of the lips, without subsultus.			14. <i>Spasms.</i> Slight subsultus in two cases.			In no case.		
In eight cases, from the 2d to the 8th day of the disease.			15. <i>Tinitus Aurium.</i> In five cases; in three of these, at the beginning; in two, until convalescence.			In three cases; in two of them slight at the beginning only.		
In three cases.			16. <i>Deafness.</i> In two cases.			In no case.		
Troubled in seven cases.			17. <i>Sight.</i> In three cases, troubled.			In one case, troubled.		
In seven-tenths of the cases, repeated three or four times in two cases; from the first day in two.			18. <i>Epistaxis.</i> In one-half, the cases in three cases repeated three or more times.			In two cases, slightly.		
In fifteen cases out of sixteen, in which sought for.			19. <i>Rose-coloured Papulæ.</i> In six of eight cases, where noted; one of the two who did not offer them, entered after the 18th day of disease; the other about the 12th day.			In no case.		
The sixteenth case entered the 16th day of disease; appearance from 6th to 16th day of disease.			20. <i>Sudamina.</i> In seven of eight cases; especially numerous, a little before convalescence.			A small number in two cases.		
In nine of twelve cases, in which mentioned.			21. <i>Chills.</i> In four of five cases.			In five-eighths of the cases.		
Elevated in every case; very great in three.			22. <i>Heat.</i> Considerable in every case; great in two.			Much in two cases; less than natural in two; moderate in the others.		
Copious in five cases.			23. <i>Sweat.</i> Considerable in two cases.					
In seven cases, above 100; irregular in one case, without pericarditis; very feeble in one; full in two.			24. <i>Pulse.</i> In seven cases, above 100; in several cases bisferiens, in all soft and rather full.			Above 100 in two cases.		
Average, twenty-five days for patients admitted before 9th day; thirty days for those after the 9th.			25. <i>Duration.</i> Average, twenty-nine days; no patient was admitted before the 9th day.			Fourteen days and a half; admission in general a week after beginning.		
Of twenty-one cases, four died; mortality for this series, one-fifth.			26. <i>Mortality.</i> Of fourteen cases, five died; mortality rather more than one-third.			Of thirteen cases, two died.		
Average, twenty-two and a half; extremes, thirteen and thirty-five.			27. <i>Age.</i> Average, less than twenty-two; extreme, sixteen and thirty-three.			Twenty-six years; extremes, thirteen and thirty-nine.		
One or two bleedings, of ten to fifteen ounces; generally two. Solution of syrup of gum, with one-third of seltzer water. Flaxseed enemata.			28. <i>Treatment.</i> Various; generally local bleeding. Neutral solutions, &c.			Local bleedings; quinine.		

The table shows that there is no important difference in the symptoms of the cases collected by M. Louis, and those which I observed at the Pennsylvania Hospital. The cases of remittent fever differ from those of typhus fever in the anatomical lesions, in the duration, the age of the patients, and in several of the most important symptoms, such as the delirium, degree of fever, typhoid papulæ, &c. The term typhoid, or typhus fever, is applied by modern pathologists only to the group of symptoms presented by the table, or at least a sufficient number of these symptoms to establish the differences between this disease and other affections in which stupor and prostration might accidentally occur. The age of patients liable to typhus fever very rarely exceeds thirty years, and no case is yet recorded above the age of fifty-five; the minimum age observed is three years. At the Children's Hospital of Paris, I collected eighteen cases; the youngest was three years of age; a brother of this patient died of the disease at four years; it is however very rare before the age of nine or ten years, and gradually increases in frequency until the age of puberty. The mortality at Paris, deduced from nearly two hundred of M. Chomel's cases, is about a third; lately it is rather less. The cases treated at the Pennsylvania Hospital must always give a large proportionate loss, from the very late period at which the patients in this country are usually brought to an hospital. The treatment pursued at the hospital, from diversity in the practice of the different physicians, was too various for analysis. In France, Drs. Louis, Chomel, and Bouillaud are conducting a series of therapeutic inquiries on a large scale. From the success these physicians have derived from their different plans of treatment, the following method seems to offer the greatest probabilities of success. At the beginning, one or two moderate general bleedings; topical depletion by cups or leeches, to the head or abdomen, or by leeches to the anus, if the violence of a local symptom and the strength of the patient indicate it. Diet and the use of the neutral saline drinks during the middle period of the disease, and the administration of chloride of soda, internally and externally, if the strength fail, and a strong tendency to gangrene and ulceration exist. Blisters are used with great reluctance by the French physicians, on account of the ulcers they often produce; sinapisms are more favourite means. The use of wine and tonics does not admit of specific directions; the proper moment of their administration must be selected by the physician.*

* In France, typhus fever is generally observed amongst those who have arrived recently in a large city. The same is true of our patients; none of them

ART. IV. *Report of Cases Treated in the Surgical Wards of the Pennsylvania Hospital.* By T. S. KIRKBRIDE, M. D. Resident Physician.

CASE I. *Strangulated Congenital Hernia—Radical Cure.*—James Boyce, æt. 22, hack-driver, was brought to the hospital on the 30th of August, 1833, at 11½, A. M. suffering from scrotal hernia, which had been strangulated since early the preceding evening, and in which the efforts of his attendants to produce reduction had been entirely ineffectual. He had never before been aware of its existence. Upon his admission, the swelling in the groin was large and tense, and the parts very tender; he suffers severe pain; has a quick and feeble pulse, cold skin, and great anxiety of countenance. He vomits occasionally, and has hiccup; after trying the usual means for restoring the intestine, an operation was performed by Dr. BARTON at 1 P. M. Upon opening the sac, it was found filled with a dark fluid almost like blood, and having a peculiarly unpleasant odour, strongly resembling that of gangrene; the intestine also presented a very dark appearance. Some adhesions existed between the tunica vaginalis and the intestine; the point of stricture was at the neck of the sac, and so close, that a director was introduced with some difficulty. After returning the intestine into the abdominal cavity, it was evident that so large an opening existed, that if treated in the usual way, the patient would be liable to returns of the accident, or at all events, would be always compelled to wear a truss. But the testicle had never descended into the scrotum, being retained in the groin by the shortness of the cord, where it lay in contact with the intestine; it was therefore introduced into the mouth of the sac, with the prospect of adhesions taking place so as to prevent the possibility of another protrusion, and thus to effect a radical cure. The parts were neatly adjusted over it with sutures and compresses, secured by the T-bandage. The patient is to be kept perfectly quiet, with the foot of the bed raised; to take tr. opii, gtt. l.; to have small portions of barley water only, for nourishment.

Evening.—Patient expresses himself as comfortable; reaction is coming on; he has had a copious discharge from the bowels. Soda water for drink.

had been at Philadelphia more than three years, the greater number but a few weeks; five of the cases originated at sea. In *epidemics* of this fever, the rule does not exist.

31st, morning.—Slept tolerably well during the night; he has some pain in his stomach to-day, but no vomiting; his skin is warm; pulse a little excited. R. Ol. ricini, \mathbb{Z} ss.; repeat in two hours if the first don ot operate. 7 P. M. Medicine has not operated; patient has had some sickness of stomach and pain; slight tension of the abdomen. Repeat ol. ricini; mist. neutral; hot fomentations over the abdomen.

September 1st.—One free discharge from the bowels last night, and another to-day; suffers pain, and occasionally has vomiting; abdomen more tense; thirst and dryness of the tongue. Continue treatment.

2d. Slight erysipelatous inflammation about the groin; abdomen tympanitic; irritability of stomach, and vomiting; one passage from the bowels. Apply poultice to the parts; let him have mutton soup. Continue fomentations; mist. efferv.

3d. Better; no vomiting since eleven last evening; subsidence of inflammation around the groin; small discharge of pus.

4th. Patient has had two natural discharges from the bowels; suffers much less pain; tympanitis continues. Pulse regular, 80.

6th. Doing well; as the stitches are cutting out, adhesive strips and simple dressing are substituted for the poultice; his appetite is good, and he is without pain; bowels not open yesterday. R. Ol. ricini, \mathbb{Z} ss. Nourishing soups for diet.

14th. Union took place to a considerable extent by adhesive inflammation, and the wound afterwards filled up rapidly with healthy granulations; he is regaining his strength; has a good appetite, and suffers very slightly from pain; his bowels are kept open by ol. ricini.

October 9th.—Since the last report the patient has had scarce any unpleasant symptoms; he has sometimes complained of colic, but this was always removed with facility; the parts have healed entirely, and for the last week, he has been walking about without inconvenience.

June 1st, 1834.—The patient mentioned to me to-day, that since he left the hospital, he has been following his former occupation, and without taking any precaution as to his mode of living. For a few weeks he occasionally had pains shooting through the abdomen, but since that, has never suffered the slightest inconvenience. He has not made use of a truss, and the parts are so firm, and the opening so completely closed, as to render it unnecessary.

Observations.—In this case the point of particular interest is the accomplishment of a *radical cure*, effected by the novel mode of filling up the mouth of the sac by placing the testicle in it, and by its

subsequent adhesions to the neighbouring parts, without, in all probability, any interference with the functions of the gland.

CASE II. *Strangulated Femoral Hernia—Sloughing of the Sac—Recovery.*—Susan Baker, æt. 50, was admitted into the hospital on the 23d of August, 1834, at noon, with strangulated femoral hernia. The patient is the mother of a family, and has generally enjoyed good health. She states that she had never noticed any swelling until about two years ago, since which it has been of frequent occurrence, but that she never suspected the existence of hernia. The tumour had always disappeared upon her taking the recumbent position. On the morning of the 19th she again noticed it, but in this instance it remained protruded, and she soon began to suffer severe pain throughout the abdomen. Her bowels had been open on the 18th, since which, up to the time of her admission, she had had no discharge. She had frequent attacks of vomiting, and for several hours before entering the hospital, the matter ejected was stercoraceous; her skin was cool and moist; pulse frequent and feeble; countenance anxious. The efforts of her attendants to produce a reduction proving unavailing, she was brought to the hospital, and the operation performed soon after by Dr. BARTON. The sac was found to be of an unusual thickness, and contained but a small portion of fluid; the intestine had rather a dark colour, but did not appear to be gangrenous. So close was the stricture, that a director was passed with difficulty. After enlarging the opening slightly, the intestine was returned into the abdomen with considerable facility. The patient bore the operation well, and her pulse, immediately after, was better than at the time of her admission. $4\frac{1}{2}$ P. M. The patient has vomited several times since the operation; the first discharge was of a yellow colour, and offensive, but the last two or three appear to be bile, mixed with the secretions from the stomach. She has pain in the abdomen just before vomiting, but not at any other time. Her pulse is 100, soft, and regular; her skin is warm and dry; tongue slightly furred posteriorly, and inclined to dryness. R. Acid. tartar, \mathfrak{z} ij.; Aquæ, \mathfrak{z} vj.; ft. sol. R. Sup. carb. sod. \mathfrak{z} ij.; Aquæ, \mathfrak{z} vj.; ft. sol. S. Take \mathfrak{z} ss. of each solution, effervescing every half hour. 10 P. M. She has had no vomiting since last report; has had one small discharge from her bowels, which was dark, thin, and very offensive; she suffers no pain; her pulse is 90; skin is of nearly the natural temperature.

24th. Patient rested during the night; she suffers no pain; pulse 84, soft; tongue moist; no distention of the abdomen.

25th. Slept well; she has had four free discharges from the bowels

during the night; has no fever nor pain; tongue is clean and moist; the first dressings have been removed, and a poultice applied; she is allowed chicken water.

26th. The patient is doing well; has natural discharges from the bowels; pulse slow and soft; tongue moist; has no pain; suppuration is commencing, and there are some appearances of sloughing of the sac; increase her diet.

28th. The whole of the sac has sloughed off; the parts look well; there is soreness about them, but no pain elsewhere; no tympanitis; poultice continued; improved diet.

September 1st.—The wound is filling up with fine, healthy granulations; patient has a good appetite; sleeps well; pulse slow and soft; bowels open by the use of enemata; directed port wine and solid animal food.

4th. Continues to improve; is gaining strength; cavity filling up rapidly; simple dressings.

14th. The ulcerated surface has nearly healed; the patient enjoying good health, and has no uneasiness in the part; the bowels are regular.

20th. Discharged.

Observations.—This case is a very interesting one, from the unusual thickness of the sac, and from the sloughing of it, without any inflammation extending to the peritoneum generally, or even to the part contiguous to the sac, and from the *radical cure* effected by the loss of the sac, and by the firm adhesion established by the healing process. I visited the patient on the 27th of November, and found her enjoying good health; the parts are firm; she has never worn a truss, nor suffered any inconvenience in the parts.

CASE III. *Tardy Union of Fractures—Friction of the Fragments.*—Dennis M'Fadden, æt. 30, labourer, of good constitution, but rather intemperate in his habits, was admitted on the 16th of May, 1834. While engaged, on the previous afternoon, at the Falls of the Schuylkill, assiting to raise heavy stones from a quarry, by means of a windlass and lever, by some means he lost his hold, so that the lever, in passing round, struck him violently upon the left arm, producing a fracture of the humerus, midway between the elbow and shoulder, throwing him a distance of ten feet, upon a pile of stones, and producing a fracture of the os femoris six inches from its inferior extremity. He has also received a severe contusion of the side, but no ribs were fractured. The arm was placed in pasteboard splints, and Desault's apparatus applied to the thigh. Ordered evaporating lotions; cups to the side.

22d. Pain in his side relieved; small portions of blood were noticed in his expectoration for the first four days after his admission, but none since; he has had another application of cups to the side, and been purged with magnes. sulph.

26th. Has no fever; swelling of fractured limbs subsided; good appetite; bowels open.

August 15th.—From the date of the last report, the patient has been gradually recovering from the effects of the injury; he has had no pain in his side, nor difficulty of breathing; and although his appetite has been rather variable, digestion has been well performed, and he has expressed himself as feeling well in every respect; he has, however, lost flesh since his residence in the hospital, and his countenance has a rather pallid aspect. The fractured limbs have been kept perfectly at rest; but thus far, no union has taken place in either bone.

September 1st.—On the 16th ult. friction of the ends of the humerus was made for the first time with considerable force, and continued for a few minutes without giving pain to the patient. This plan was persisted in daily for one week, when the parts began to be tender; during the next week it was done only every other day, and the pain of the operation increased on each repetition of it; the femur is uniting.

15th. There appears to be a slight stiffening of the humerus; no friction has been made since last report; although no friction has been employed between the fragments of the femur, the patient is able to raise his leg without assistance; splints removed.

30th. The humerus is now evidently uniting, and bears considerable force to be applied to it; it is still kept in splints.

October 12th.—Since last report, the firmness of the fractured bones has been steadily increasing; the patient's general health has been good, and he has gained flesh and strength; he is allowed to walk with crutches; splints continued to arm.

November 1st.—Walks short distances without his crutches; the union of the humerus is so perfect that the splints have been removed to-day.

22d. He has regained, in a great measure, the use of both his injured extremities. Discharged.

CASE IV. Absorption of the Callus in a Case of Fracture, after Union.—William Brum, æt. 21, carter, of good constitution, and enjoying good health, was admitted into the hospital on the 16th of April, 1834, with fracture of both bones of the leg, about five inches above the ankle, from the kick of a horse. There was no external

wound, and a fragment of the tibia appeared detached. Suppuration took place, and a few small scales of bone passed through the opening. The separated portion of the bone united; suppuration ceased, and he was discharged on the 24th of June. The ulcer had been well one week previous to his discharge, and during that time he had been walking about the grounds without the use of his crutches, his limb being perfectly firm. He again returned to the hospital on the 24th of July, with an ulcer over the seat of the fracture. He states, that after going out, he used his limb without inconvenience, but did not commence his usual occupation for a couple of weeks afterwards, and that after being employed for a few days, he found the limb more painful; he continued to use it, however, and to live freely. One week before his reëdmission, the ulcer broke out, but was of small size. On the 28th, a small spiculum was discharged, and the ulcer was reduced to a point. A probe introduced at this time, detected a portion of soft, bony matter. On the 15th of August, without any assignable cause, the ulcer commenced sloughing, and extended rapidly; his health began to suffer; he had chills, followed by fever; lost his appetite, and became rather prostrated. The sloughing was finally arrested by the application of caustic potash over the whole ulcerated surface; at this time it was observed that the callus uniting the fractured tibia was completely absorbed, and that the fragments were perfectly moveable, this separation of the bone appearing to occur simultaneously with the sloughing of the soft parts. The caustic was now applied to the exposed bone; considerable inflammation occurred a few days afterwards, but the parts soon took on a healthy action, and gradually improved, union taking place between the fragments of the tibia, so that by the 25th of October the ulcer had nearly healed, and the bone had become so firm that it was removed from the fracture box.

November 11th.—The bone is firm; a very small ulcerated surface exists over the anterior face of the tibia, through which several small portions of bone have been discharged within the last ten days; his general health is good; he is not yet allowed to walk.

December 1st.—There has been no discharge from the leg for ten days past, and the patient is walking without crutches.

CASE V. Absorption of the Callus in a Case of Fracture, after Union.—Matthew Kiniff, æt. 27, while driving an omnibus in the upper part of the city, on the 28th of August, 1834, fell from his box, and the hind wheel of the heavy carriage passed across the left leg, (which was bent at a right angle with the thigh,) about four inches below the knee; thence up along the thigh

and side, producing a fracture of the leg, and of four or five of the ribs, with severe contusions of all the intermediate parts. He was immediately carried to the hospital. The effusion was great in the whole extremity, and particularly so below the knee. He had severe pain in his side, with difficult respiration; a small portion of blood was expectorated immediately after the accident; none afterwards. The limb was placed in a fracture box, and lotions applied to the leg; bandage, &c. around the chest. Excepting the pain from the swelling, which increased immensely, he had no bad symptoms.

On the 4th of September, a swelling was first observed in the groin, at the part over which the wheel passed. It was not very painful, but increased rapidly for a few days; the parietes were thin, but it was deemed inadvisable to make an opening, although the fluctuation was very distinct, and the quantity of fluid collected, probably, near a pint. On the 10th, he commenced the use of a stimulating liniment. On the 13th, it was observed to be less tense, and has since disappeared so rapidly, that now, (16th,) but little remains. He breathes without difficulty when quiet, but cannot bear motion; the swelling has disappeared almost entirely from his limb; his health is good; he is allowed a good diet.

30th. There is some stiffening of the bone; the swelling in the groin has subsided almost entirely; some tenderness still remains at that point; a collection of bloody serum, just below the knee, has been opened.

October 1st.—The fractured portions of bone have united; there exists, however, considerable inflammation from the knee to a short distance below the seat of fracture.

4th. There is still a discharge of the serum, with oily globules, (softened fat?) floating in it, and some sloughs of cellular substance.

12th. The swelling below the knee has gradually increased; it fluctuates slightly; a fluid may be pressed down from the knee, as far as the spot where the tumour appears to point, and which is opposite the seat of fracture. Upon opening the tumour, the only discharge was about a gill of dark, grumous fluid, with small portions of coagulated blood. For the last three days, a decided diminution of the firmness of the bone has been observed, and to-day the absorption of the callus appears complete, as the fragments are perfectly moveable. The limb has always been kept in the fracture box.

17th. He has a large discharge from the second opening made below the knee; general pain throughout the limb, with fever and loss of appetite.

30th. Soon after opening the tumour, a very copious suppuration commenced, and continued several days; within the last few days, there has been a stiffening of the bone.

November 10th.—Union has again taken place between the fragments, with a great diminution of the suppuration, and healthy granulations of the ulcerated surface; general health good.

December 1st.—Bone continues firm; ulcer healing.

CASE VI. *Injury of the Abdomen*.—George Shivers, æt. 26, brick-maker, admitted August 26th, 1834. He is not very robust, but has generally enjoyed good health. About 4 P. M. of the day of his admission, he was injured by being accidentally thrown down, and receiving several kicks from a horse, under whose feet he had fallen. He was brought to the hospital one hour afterwards. The blows appear to have been received over the epigastrium and right hypochondriac region, where the skin is slightly abraded; he suffers extreme pain throughout the abdomen, and has also some pain in the head, on which are three or four trifling wounds. He had vomited before his admission, but no blood existed in the discharges; there has been no vomiting since he entered the hospital; the surface of the body generally is cool, that of the extremities strikingly so, and his pulse is very feeble and frequent. Ordered heat and stimulants to be applied to the extremities; tr. opii. gtt. l.

27th. The patient slept but little during the night, and to-day complains of intense pain at the lower part of his abdomen, with inability to bear the slightest pressure. He has passed his urine; his pulse is quick, frequent, and feeble; tongue red at tip, having a whitish coat in other parts; skin less cool than yesterday; abdomen tympanitic.—R. Emplast. vesicat. 10 × 12 on the abdomen.

29th. Blister drew well; there has been a diminution of pain, and slightly so of the tenderness, since its application, but an increase of the tympanitis; his respirations are short, and deep inspirations impossible. This evening, his skin and the conjunctiva of the eyes are noticed to have become saffron-coloured, and his urine is also tinged with the same hue. R. Mist. neutral. ℥ss. q. 2. h.; opiates pro re nata.

31st. Since his admission, the patient's bowels have been open daily; this morning he had a loose discharge, containing liquid blood; none had been observed previously. Ordered mild, nourishing diet.

September 1st.—Percussion is dull three inches below the ribs, on the right side, and nearly as much on the left; his tongue is red at the tip, and covered elsewhere with a heavy, brownish fur; his pulse is 120, very quick; frequent, yellow discharges from the bowels, with-

out much pain. R. Ol. ricini, ℥ss.; sacch. alb. ʒij.; pulv. gum. arab. ʒj.; aquæ menth. ℥vijss.; tr. opii. ʒij. ft. M. S. ℥ss. thrice a day. Opium at night.

8th. Since the last report, there has been a diminution of pain, of the frequency of the discharges, and of the yellow tinge of the skin; his respiration is better; he has some hoarseness; blood was observed in the discharges from the bowels on the 2d and 6th. He now has three discharges in twenty-four hours. Continues mist. oleag. and opium at night.

16th. Symptoms have been variable since the 8th. On the 9th he had a return of pain, with vomiting, anxiety of countenance, and increased difficulty of respiration. Ordered mist. efferves. R. Calomel, opii pulv. āā. gr. j. ft. pil. one thrice a day. There is now less effusion into the abdomen, and but little pain; on the left side is felt a smooth tumour, not lobulated, two inches below the ribs; his pulse is feeble, and retains its quickness, varying from 100 to 130; his tongue is always red at the tip and edges, and is disposed to dryness; less coated posteriorly.

30th. On the 26th he had pain in his side, and inability to take a deep inspiration. A blister was applied, and he has since been more comfortable; further diminution of abdominal swelling; percussion dull two to two and a half inches below the ribs on the right, and about the same on the left side.

October 17th.—The patient's gums were not touched by the pills, and they were suspended on the 6th inst. On the 10th he was directed to take mass. ex. hyd. gr. v. bis. die. He has had more pain in the abdomen. Another blister was applied on the 12th; his gums are at this time slightly sore, and there is a general mitigation of the symptoms; he has had a short, hacking cough for several days, at intervals; the mercurial pills were continued in smaller doses; opium to relieve pain, and nourishing diet

23d. Violent pain yesterday, with chilliness, followed by fever; increased to-day; pulse frequent and wiry; tongue dry and red; respiration hurried; tenderness of left side, near the edge of the ribs; slight head-ache; one loose discharge from the bowels. He is taking mist. neutral. Apply seventy leeches to the side.

24th. Pulse reduced by the leeching; it has the same peculiar quickness; cough; skin cooler; less pain; his strength is failing.

25th. Slightly delirious; pulse 120, weak; increase of cough; tongue dry; he is thirsty. Continue mist. neutral and opium.

27th. Percussion nearly as last noticed; patient has pain now in the right side, and general soreness of the body; his pulse is 140,

quick, feeble; respiration frequent, interrupted; sighing; anxiety of countenance; diarrhœa for several days. Treatment continued.

29th. Since the last report, the patient has been gradually sinking; is restless, and frequently delirious; his countenance has become cadaverous, expressive of much distress; skin cold, moist; pulse indistinct. Death at 6 P. M.

Autopsy, twenty-one hours after death. Exterior.—Moderate emaciation; rigidity marked in lower extremities only; yellow hue of the body generally; lividity of the back and right side of the thorax. *Abdomen.*—The peritoneal cavity contained about a quart of turbid, straw-coloured serum, with flakes of lymph floating in it. Pus was observed upon the membrane covering the intestines and upper surface of the liver; strong adhesions existed among the parts about the under surface of the liver and gall-bladder. *Stomach* distended, containing one pint of liquid of a greenish colour and acid odour; mucous membrane of a pale, ash-colour; consistence diminished, particularly in the great cul-de-sac, where it was easily scraped off by the scalpel. *Small intestines* distended; mucous membrane of a pale, slate colour; consistence perfect; glands of Peyer distinct, slightly reticulated, not ulcerated; isolated follicles visible; mesenteric glands enlarged, two or three of them softened. *Large intestine* containing liquid, feculent matter, of a yellow colour; ulcerations observed in almost every part, particularly the lower two-thirds, generally one-eighth of an inch in diameter, with abrupt edges and a cellular bottom; consistence of the mucous membrane diminished throughout. *Liver* is of twice the natural size, extending three inches below the margins of the short ribs, on the left side, and nearly as much on the right; externally irregular, but smooth, mottled with a dull green colour; very resisting to the touch. The tissue presents the same dull green colour, mottled with yellow, from the development of the granular structure, which is very distinct; each acinus being at least three times its usual size; no trace of pus exists in any part; a little blood flowed on incising it. The left lobe is more elongated than the right, and forms the tumour felt on the left side of the abdomen during life. *Gall-bladder.*—Strong adhesions attach it to the surrounding parts, so as to require dissection by the knife to detach it. Its coats are one-twelfth of an inch in thickness, and hard, semi-cartilaginous; the internal membrane is rough, tinged with the bile, which is dark, and of the consistence of tar; the duct is not closed, but traced with difficulty, in consequence of the close adhesions of the surrounding parts. *Spleen* enlarged, seven inches long, and five

broad; consistence a little softened; adhesions to surrounding parts. *Bladder* contracted. *Thorax*.—Contents examined slightly; the right pleura contains about a pint of serum of a light straw colour, with flakes of lymph floating in it. The left does not contain half a pint, and no lymph observed in it. *Lungs*.—No adhesions; permeable; no tubercles nor granulations. *Heart* large; small coagulum in the left ventricle, which is slightly hypertrophied; valves healthy. *Head* not examined.

CASE VII. *Puerperal Phlebitis*.—Catharine Mayer, æt. thirty-four, a native of Germany, was admitted into the hospital on the 25th of November, 1833, with puerperal phlebitis. Patient arrived at this port nearly two weeks before her admission; she had been delivered on ship-board, without assistance, ten days before her arrival. She says her labour was severe, and that she suffered much from her bad accommodations. Her present indisposition commenced on 13th, with pain low down in the back, gradually extending along the thigh and leg. The pain at first was moderate, but has since been gradually increasing, so that within the last five days she has suffered very much, and has been unable to sleep at night. The swelling of the limb has existed four days; the secretion of milk has gradually diminished since the pain has been severe.

On her admission the limb was swollen almost to the groin, nearly of the natural colour; the swelling greatest in the leg, which was very tense, and had a shining appearance; there was tenderness of the limb in every part; but particularly near the groin, above the knee, and on the inner side of the leg, where moderate pressure gave excruciating pain. There is thickening of the parietes of several of the superficial veins, which can be traced for several inches on the diseased extremities. The pulse is quick, rather feeble, 90; tongue coated; bowels costive; skin a little warmer than natural; anxious countenance. Apply forty leeches to the limb, near the seat of pain. R. Calomel, gr. iv. at night. Pulv. Seidlitz in the morning. Low diet. Limb a little elevated.

26th. More comfortable this morning; has no pain near the groin; parts below are still very tender; swelling undiminished, it is almost entirely on the inner side of the leg; bowels have been freely purged by the medicine. Apply fifty leeches to leg and thigh. R. Pulv. potas. nit. ʒij.; Ant. tartar. gr. iss. M. Div. in pulv. xij. S. One every two hours.

27th. The patient is in better spirits; the leg continues painful; there is a slight diminution of the swelling; she has some pain from

the groin to the ankle; pulse still quick; skin of natural temperature; patient is unable to sleep. R. Pulv. doveri. gr. x. every night. Apply fifty more leeches to the limb. Continue pulv. nitros.

28th. There is subsidence of the swelling; less tenderness of the limb; the thickened tunics of the veins can still be traced with facility; pulse continues quick, but less frequent; the tongue is becoming clean; bowels are open; she still has pain, particularly near the groin. Patient slept well last night. Apply forty leeches. Continue other remedies.

December 2d.—Much improved since last report; had thirty leeches applied on 30th ult. and was purged yesterday. Has no pains to-day; the limb is reduced to nearly its natural size; still some tenderness on pressing the enlarged veins of the leg. Continue pulv. nitros. and Pulv. dov. at night. Improved diet.

4th. No pain; no swelling in her limb; she sleeps well at night; has a good appetite. Two indurated spots observed, apparently in the course of a lymphatic; none noticed previously. R. Ammon. muriat. ℥j.; aceti. ℥iv. ft. sol.; to be used on indurated points. Purge with magnes. sulph.

8th. Patient is allowed to sit up; has no pain; thickening of parts scarce observable; is purged every third day.

12th. Is allowed to walk, having a roller applied to the leg as high as the knee.

14th. Has been walking about the ward without inconvenience till last evening, when she complained of some pain in the leg, which was removed by the application of fifteen leeches. Appetite good; gaining strength rapidly.

20th. Gradual improvement since last report. Discharged.

CASE VIII. *Temporary Loss of Vision.*—Ann Brady, æt. fourteen, was admitted on 6th of March, 1834. She is a domestic in the family of a gentleman of this city, and states that when engaged in her duties a few hours before, she had been injured by a spark flying from the fire, and striking her left eye directly over the pupil; and that her vision immediately became indistinct. When admitted she complained of pain in the head; none whatever in her eye; she is unable to distinguish objects, but says there is the appearance of “a green cloud” constantly before her when her uninjured eye is closed. The appearance of the eye is perfectly natural; no change in the pupil, which contracts as usual on exposure to the light. Ordered cups to the head; mustard foot baths; cold applications to the eye; light excluded from it.

7th. To-day every thing before her is “dark” when the uninjured

eye is closed; she still has some pain in the head; none in the eye, the appearance of which continues natural. Apply thirty leeches to the temples; purge of calomel and rhubarb; cold applications and baths continued.

8th. Head-ache relieved yesterday by the leeches; has no power of vision; no change in the appearance of the eye; but now complains of deeply-seated pain in it. Ordered emplastr. vesicat. 4 × 5, on back of neck.

9th. Blister drew well. This evening she is able to distinguish light from darkness; has no pain whatever; pupil natural; no appearance of inflammation. Purge with sulph. magnes.

11th. Since last report patient's vision has been gradually improving, so that now she is able to distinguish objects near her, or count one's fingers when held within a few inches of the eye. Blister is kept open.

13th. Power of vision increasing; no pain; she is purged every other day.

17th. Patient is able to distinguish small objects across her room; but finds her sight bad in the evening; complains of pain in the head. Apply five cups to head.

19th. Vision nearly as good as that of the uninjured eye; blister healing.

21st. Has recovered her sight perfectly.

26th. Discharged.

CASE IX. *Dislocation of the Os Humeri upon the Dorsum of the Scapula.* —, æt. 55, merchant, was admitted into the hospital by Dr. Barton, about noon on the 14th of October, 1834, for dislocation of the left os humeri upon the dorsum of the scapula. The patient is muscular; he had been in the hospital about three months before, for a dislocation of the os humeri of the opposite side into the axilla, which required the application of pulleys for its reduction. He had never had any previous dislocation. His habits are intemperate; on the afternoon previous to that of his admission, he had been drinking with some friends, and it was on his return home, that he met with the accident, but in what way, he had no distinct recollection.

Considerable force had been used in attempts to produce a reduction before he entered the hospital, causing tenderness of the neighbouring parts; a deep depression existed under the acromion; the anterior edge of the scapula was thrown forward; the head of the humerus could be distinctly felt on the dorsum of the scapula immediately below its spine; the elbow was directed forward; the motions

of the arm were limited, and could not be accomplished in the anterior or posterior direction, without giving great pain to the patient.

The first attempt made at reduction was nearly that recommended by Sir ASTLEY COOPER, and differing in no particular from that for a dislocation into the axilla. The patient being seated in a chair, the middle of a sheet was passed around the chest, and its ends fastened securely to a post opposite to the injured shoulder. The arm, just above the elbow, being covered with buckskin, another sheet was bound to it by means of a wet roller. The scapula was fixed by an assistant, making pressure against the acromion; the arm being nearly at right angles with the body, the pulleys were attached to the last mentioned band, and extension was made firmly and steadily for nearly half an hour, while at the same time, efforts were made to dislodge the head of the bone by rotation, but without success.

Mr. C. M. COLEY of Bridgeworth, has recommended a different plan, which was also tried fully, without success, (*see Cooper on Dislocations*, p. 405.) This consists in elevating the whole arm, and rotating it outward as much as possible, for the purpose of rolling the head of the humerus towards the axilla; when brought to resemble as nearly as possible a dislocation into the axilla, the head of the bone is to be retained in its situation, and the arm brought into a horizontal position, after which extension is to be applied as in ordinary cases.

Having failed in these efforts, while the patient was kept in the same position, an additional counter-extending band was fastened by its middle around that previously used, where it passed immediately behind the scapula; the other end of this second band was fastened to a firm point a few feet distant, so that when extension was again made, its direction, instead of being nearly horizontal and directly outwards, was considerably inclined inwards and forwards. The extending force was again applied, and in less than five minutes the displaced bone returned into the glenoid cavity, with a snap that was audible to the patient.

CASE X. *Extensive Sloughing about the Anus—Use of Kreosote.*
—John Luckman, æt. 42, labourer, was admitted into the medical ward for dysentery, on the 16th of August, 1854. He is rather intemperate in his habits, but has always enjoyed good health. The dysentery had existed one week before his admission, and required little attention after the second day of his residence in the house.

On the 20th, he complained of the parts around the anus being swollen and exceedingly painful, and stated that, two days before, he first noticed an exceedingly unpleasant sensation of weight and heat,

with acute pain in the parts, and much sensibility to the touch. Upon examining him, I found the parts around the anus much swollen, red, and hard, with a great increase of their temperature; he could bear no pressure upon them; his pulse was frequent and quick, and his skin hot. At this time his bowels are open once daily; discharges liquid, with some griping. Ordered sixty leeches at once, to be followed by cold lotions. No benefit resulted from these applications. On the 22d, a slough had formed on the left nates, and an opening was made at a point where the integuments were thin, and through which a large collection of dark, offensive matter, with sloughs of cellular substance, was discharged. A probe could now be introduced on either side of the raphe, a distance of five inches, along the course of the rectum, but no communication with the intestine was detected. Poultices were applied, and the patient allowed full diet, as his strength was suffering materially.

27th. A large slough on the left side has separated; a probe may be passed from the opening as far as the scrotum, in that direction; discharge copious and offensive; the patient has had diarrhoea for the last three days; he has some difficulty in passing his urine; diminution of pain; pulse weak and frequent; tongue coated. He is taking pil. opii. gr. j. four times a day; mist. cretæ, with catechu; portwine; full diet; fermenting poultice, and sol. chlor. sod. to the parts.

September 2d.—The sloughs are now all detached, leaving an immense ulcerated surface extending from each nates, four or five inches along the rectum, and on the perineum as far as the scrotum. Since the 29th, he has been using a solution of kreosot. gtt. xij. to a pint of water, as a wash for the parts, thrice daily. It has acted very beneficially in destroying the shockingly offensive odour of the discharges, and the parts are now assuming a very healthy appearance.

8th. There has been a decided improvement, and the deep cavities are now filling up rapidly with granulations. He is regaining his strength slowly. Continues the sol. of kreosot. and other treatment.

October 7th.—The ulcerated surface on the perineum is now only half an inch in diameter; the others have all healed. His health is good, and he has gained flesh; has had no diarrhoea for two weeks past. There is great corrugation of the skin of the perineum, and the tenderness of the adjoining parts, which still continue hardened, is the only inconvenience he suffers. Continues the wash of kreosot. and full diet.

18th. The parts have healed completely, and the patient was today discharged. The adhesions, consequent upon the loss of so much cellular matter, have not limited the motions of the sphincters.

CASE XI. Gun-shot Wound of the Thorax.—Francis Dawson, æt. 52, a coloured porter, was brought to the hospital, November 3d, 1834, about 11 A. M. having received the charge of a pistol in the left shoulder. He is of intemperate habits, but has generally enjoyed good health, without being robust. He has had considerable cough for three weeks past, without pain in the chest, or any material inconvenience to prevent his attending to his ordinary occupation. When admitted, one hour after the occurrence of the accident, he stated that the hæmorrhage had been slight, and that he was now suffering but little pain at the point where the charge had entered, but lower down in the thorax, of the same side. His pulse is 90, soft, regular; his skin is of the natural temperature; some anxiety of countenance, with his respiration a little hurried; he moves his arm without difficulty, and without exciting pain; complains of numbness in the middle finger of the injured arm, and a diminution of sensibility; none in other parts. Just before entering the house, he observed, once only, some traces of blood in his sputa. At his entrance, auscultation showed his respiration tolerably good in every part of the chest. The wound was on the anterior part of the shoulder, one inch above the axilla, the course taken by the contents of the pistol was traced for about two and a half inches downwards and inwards, in the neighbourhood of the axillary vessels, beyond which point, the opening could not be traced. No shot or foreign substance was detected in this examination, although several holes in his coat led to the inference that the pistol had contained small shot. Apply poultice to wound; low diet; eight cups to the side. *Evening.* The pain is exceedingly severe; his respiration is high and hurried, interrupted; the pain is referred almost exclusively to the lower part of the left side of the thorax; his countenance is still more anxious; pulse fuller and quick, 104, bounding; the skin is warm; he coughs occasionally; has expectorated a tea-spoonful of liquid blood, and twice his sputa have been a little tinged with it. V. s. ℥xxxij . R. Ant. tart. gr. ij. aquæ, ℥vi . ft. sol. S. ℥ss . every hour.

4th. Patient's pulse was reduced by the bleeding, and his pain diminished for a few hours; he again suffers very acutely in the same region, and his respiration and cough are as reported yesterday. His skin is warmer than natural, the face and neck covered with perspiration; pulse 100, with strength; percussion dull over left side of chest; no respiration heard at the lower part of this lung. V. S. ℥xxv . followed by cups on the side; purge with magnes. sulph.; continue sol. tart. ant.

5th. The patient was better, as before, after the abstraction of blood; he slept but little during the night, owing to the recurrence of

the pain and extreme difficulty of respiration, the former being still referred to the lower part of the thorax, although at present extending a little higher than on the morning of the 4th. His pulse is 120, less strong than yesterday; skin warm; free perspiration on the upper parts of the body only; tongue moist, covered with a whitish fur. V. S. $\frac{3}{4}$ xx.; apply dry cups over the side; continue sol. tart. ant.

6th. The patient had no sleep last night, and was for a short time slightly delirious; the intensity of his pain is diminished, but his respiration is, perhaps, rather more difficult than at any previous time; skin of nearly the natural temperature; pulse frequent, rather feeble; no respiration heard in any part of the left side of the thorax, and percussion flat every where on that side. Dry cups to side.

7th. Increase of delirium during the evening and night; patient is restless; respiration is hurried; great anxiety of countenance; skin cool, moist; pulse quick and feeble, 150; short, hacking cough; low muttering delirium. Death at 7 A. M.

Autopsy, five hours after death. Exterior.—Fine muscular development; no lividity; marked rigidity of the neck; moderate in the lower extremities; a small wound on the anterior part of the shoulder, immediately above the axilla. *Head.*—Longitudinal sinus contains a small fibrinous coagulum; glands of Pacchioni visible; dura mater dotted with blood exteriorly; more than usual quantity of fluid in the arachnoid, giving it a slightly opaque appearance; pia mater pale. *Brain* generally more moist than usual; cortical substance of a pale ash-colour; medullary white, very few dots of blood in any part; consistence good; ventricles containing $\frac{3}{4}$ j. of serum; central parts pale, firm; cerebellum moist, firm; about $\frac{3}{4}$ ij. of limpid serum at the base of the brain.

Thorax. Left pleura.—This cavity contained three quarts of bloody serum, pressing the collapsed lung into a very small space. In this fluid were found numerous flakes of lymph. The whole costal pleura, as well as that lining the lung, was covered with a thick, tenacious, false membrane, in many places more than one-twelfth of an inch in thickness. On the costal side, in the space between the fourth and fifth ribs, at a spot about equidistant from the spine and sternum, was an effusion of blood into the surrounding cellular texture. It was at this point that the contents of the pistol had penetrated the thorax. Traced from their entrance on the anterior part of the shoulder, one inch above the axilla, their course was first downwards and inwards, a distance of two inches, immediately above the axillary artery, but not wounding it; thence under the pectoralis muscles to the point indicated. The first two inches were traced by an opening, admitting with facility a moderate sized bougie, but the remaining portion of the

track was rendered obvious only by coagulated blood in the cellular tissue. *Left lung* collapsed. After removing the false membrane covering it, immediately under the pleura, in the substance of the lung, was found a cavity sufficiently large to contain a small hazel-nut. In this cavity, which was lined with a false membrane, was discovered a portion of the wadding of the pistol, and a small piece of the patient's clothing. The course of these foreign substances was traced a distance of two inches across the lung, which was there gorged with blood, so as to form a mass almost isolated, about the size of a hen's egg. A few gray granulations existed in the superior part of the lung, but no tubercles. The *right lung* had also a few gray granulations at its summit, where there were old and strong adhesions, and likewise at its inferior part. There was but little fluid, and only a small portion of recent lymph; no tubercles; tissue *ærated*; no emphysema; bronchi pale. *Heart* large; tissue firm; contains dark, liquid blood; pericardium smooth, pale; contains $\frac{3}{4}$ ij. of serum; valves healthy. *Liver* very large, at least one-half more than the usual size, reddish-brown colour, peculiarly brittle; two substances not distinct. *Gall-bladder* moderately distended with dark bile, of nearly the consistence of tar. *Spleen* four and a half inches by three, of good consistence; no granulations. *Kidneys* of a reddish-brown colour; at the superior part of the right is an enlarged calix, which would contain a hazel-nut, and is filled with urine. *Bladder* contracted; membrane pale.

Stomach contracted, containing a whitish mucus; mucous membrane of a pale rose-colour, no red vessels; consistence good, generally mammellated and a little thickened.

Small Intestines.—Mucous membrane pale generally, of good consistence; near the valve are several irregular patches of a dark, livid colour, without softening; glands of Peyer rare, a few in the last ten or twelve inches are alone distinct, reticulated, not elevated; isolated follicles not visible.

Large Intestine.—Mucous membrane throughout pale, and of perfect consistence; not thickened.

CASE XII. *Rupture of the Kidneys, Liver, &c.*—William Haze-well, *æt.* 43, labourer, admitted into the hospital on the 25th of October, 1834, at 10 A. M. He is reported to have been of temperate habits, and generally to have enjoyed good health. While standing in the street conversing with a friend, the leading horse of a heavy cart came in contact with his person, by which means he was knocked down, and the wheel passed directly over his abdomen. He was immediately carried to the hospital.

When admitted he was perfectly rational, and able to give a dis-

tinct account of the accident. He complained of excruciating pain throughout the abdomen; his countenance was pallid, and very anxious; his skin was cool and moist. Pulse very feeble and frequent. Respiration hurried. He had no vomiting.

Stimulating applications were made to the extremities; a terebinthinate enema administered, and opium given *pro re nata*, to allay the excessive pain which he suffered. No reaction however was produced by the remedies; the abdomen soon became tympanitic; percussion was resonant in every part, and there was no distention of the bladder to be detected, although he had passed no urine since the accident. On the morning of the 26th, he discharged half a pint of liquid blood through the urethra, but no urine, and a catheter, which was afterwards introduced, brought away a small quantity of blood only. Death at 10 A. M.

Autopsy, twenty-four hours after death. Exterior.—Lividity of the back; rigidity of the extremities marked; good muscular development. *Head.*—Dura mater strongly adherent to the cranium; longitudinal sinus empty; arachnoid pale, containing a moderate quantity of fluid; cortical substance of a pale ash colour, firm; medullary white, firm, not injected; ventricles containing $\frac{3}{4}$ ij. of serum; central parts pale, firm; cerebellum firm.

Thorax.—Slight adhesions at the upper part of both lungs; a quantity of effused blood found in the cellular substance of the posterior mediastinum; no tubercles nor granulations; the posterior lobes gorged with blood, and in the incipient stage of putrefaction; bronchiæ pale. *Heart*, medium size; dark coagula in both auricles; substance soft; valve healthy.

Abdomen.—Is much distended, and contains one pint of liquid blood. Large effusions of blood also exist throughout the cellular substance on the posterior part of the abdomen, particularly in the region of the kidneys, and under surface of the liver. *Stomach* containing a creamy liquid of acid odour, not distended, is of a livid colour externally; in the inferior part of the great cul-de-sac the mucous membrane at the part corresponding to the livid patch, is of a dark lead colour, in consequence of an effusion of blood into the sub-mucous tissue; in the rest of its extent it is of a pale milky colour, irregularly softened in the great cul-de-sac, still yielding strips of nearly the natural length. The strips in the small curvature are less than six lines in length; mammillation great over the whole surface.

Small intestine contains in its lower two-thirds a light yellow fluid, whitish superiorly, not distended. The mucous membrane throughout is pale, of the natural consistence, but adherent, yielding in no

part; strips of more than four lines. Glands of Peyer not elevated, pale, slightly reticulated. Isolated follicles like the heads of pins, without central points; found only in the last three feet.

Large intestine not distended, contains some hard masses of fecal matter; mucous membrane slate-coloured, no arborizations, thin and transparent; strips in cœcum six lines, in the rest of colon four or five lines, throughout adherent; follicles numerous, the largest one a twelfth of an inch in diameter, with central points. *Liver* large, strongly adherent to the diaphragm; on its upper surface, under the peritoneal covering, exists an effusion of blood about three inches in diameter, immediately under which are found three fissures in the substance of the liver, with rough edges, each about one inch long, and one-fourth of an inch deep. In the substance of the liver, one-third of its thickness from the upper surface, is an isolated clot of blood of the size of a large almond. *Spleen*, ecchymosis at the upper surface, medium size, not torn. *Kidneys*.—Upon removing the large quantity of blood effused into the cellular substance surrounding the *right kidney*, it was discovered to have been completely broken, nearly in a transverse direction. The smaller fragment comprising about one and a half inches of its upper part, being separated from the lower by a firm coagulum of blood half an inch in thickness; on the upper fragments there were four or five small fissures, about one inch long, and one-fourth deep. The lower portion presented on its under surface three fissures, one and a half inches long, and nearly half an inch in depth. On the upper surface of the *left kidney* was a long fissure, commencing near the middle, and extending from its outer margin upwards and inwards a distance of three and a half inches, and in depth three-fourths of an inch, so that a large flap was turned off, the edges of which are rough and covered with coagulated blood. Four or five other superficial cracks were found on the upper, and three on the under surface, from one to two inches long, and from one-eighth to the half of an inch deep. The *ureters* were opened, but contained no blood. *Bladder* strongly contracted, mucous membrane pale, tinged with red, contains no urine, it was distended by injecting water, but no fissure *existed in it*.

NOTE. It may be proper to observe, that in several of the cases reported in this and the previous number of the journal, in which the injury was local, the writer has given all the details of the post mortem appearances, believing them to possess considerable interest, from the fact, that the injuries which produced death were generally received by persons who were at the time in the enjoyment of health.

ART. V. *Remarks on the Medicinal Properties and Effects of Prussiate of Potash; or Ferro-Cyanate of Potassa.* By BURLEIGH SMART, M. D. of Kennebeck, Maine.

THE immediate or primary effect of this article appears to be sedative, diminishing sensibility and contractility. These effects are inferred from its lessening the action of the heart, diminishing the number of its beats in a minute, and softening and lessening the volume of the pulse. A full dose of this substance will often reduce the number of pulsations in a well person ten beats in a minute, in a few minutes after being taken.

In a diseased state of the system, accompanied with increased arterial action, the sedative effects are much more striking. A female, in a case of subacute bronchitis, with a pulse of 132, and the mucous rattle very loud, with a hurried respiration and colliquative sweating, had her pulse reduced from this number to 100 in a minute in twenty-four hours, and in eight days to 88, with a corresponding improvement of all the symptoms.

I could detail many cases showing its sedative effects on the system, but select only a few.

A child of Thomas Pewman's, aged four years, had been sick three weeks with acute bronchitis, affecting also the parenchyma of the lungs, which had assumed a chronic form. It was much emaciated; febrile exacerbations of the hectic character daily; great dyspnoea; colliquative sweatings, with occasional attacks of diarrhoea; cough frequent and distressing; constant mucous rattle; vomiting occasionally in the paroxysms of coughing; complete anorexia. The subcutaneous veins are thick, and especially the back of the chest were much enlarged, and apparently more numerous, so as to give the skin at times a mottled and livid hue. There was also œdema of the feet and legs and face. The pulse were 160; cold chills and hot spells every day; was believed by all observers to be sinking fast, with the prospect of not surviving much longer.

Having pursued the ordinary treatment in such diseases, as small doses of calomel and ipecac., antimony, Ethiop's mineral, Tr. lobelia, alkaline solutions, emollient fomentations and cataplasms to the chest, with blisters to the same part, without much effect on the disease, I was about to abandon the case, when I prescribed the ferro-cyanate of potash for the severe cough for which opiates had been tried, but embarrassed the expectoration.

A solution of this salt, $\mathfrak{z}\text{j}$. to water, $\mathfrak{z}\text{j}$. was directed in doses o ten

drops three times a day. The pulse in a few days fell to 140, with a diminished expectoration and abatement of the sweating and cough and dyspnœa, and some improvement in the appetite and strength. By a continuance of this article with no other medicine, he was in nine weeks gradually restored to his former health, and is at this time a well, stout boy, having enjoyed uninterrupted health ever since August, 1832.

I could detail a number of similar cases, but think one sufficient, where the number has been enough to establish the point desired.

I will now state some of its observed effects on the system in different diseases

1. *Sedative effects.*—These render it applicable to many diseases of increased action of the vascular system and morbid sensibility of the nerves.

In many diseases of an inflammatory and painful character, it is often, when judiciously used, of signal benefit in allaying inordinate action and lessening pain. In erysipelas of the epidemic kind, it has in three or four cases, where the disease attacked the head and face, appeared so far to remove the pain which had been very severe, as to render it very tolerable throughout the remainder of the attack by continuing its use. In some of these cases, opium or Dover's powders had been used, and in one produced an increase of the cephalalgia and delirium. In a puerperal case, (Mrs. L.) it afforded almost immediate relief to the head-ache.

May 7th, 1834.—Mrs. L. pulse 130; third day after accouchement, pains in the abdomen and back, and violent head-ache; burning in the stomach and bowels; has milk and lochia. Ordered solution prussiate pot. forty drops every fourth hour; Tr. lobelia and vin. antimon. āā. gtt. x. every fourth hour, between the other medicine.

8th, 7 A. M. Much better; pulse 88; says the pruss. potash afforded great relief to the pain in the head in a few minutes after taking the first dose.

13th. Having been some exposed, had chills followed by heat and return of head-ache; pulse 120. Sig. diaphoresis with vin. antimon., Tr. lobelia and sol. pruss. pot. ʒj. alternately every hour until diaphoresis is excited; then every three hours sol. pruss. pot. and omit other medicine.

14th. Better; pulse 90. Sig. pruss. gtt. xl. every fourth hour.

15th, 3 P. M. Better; pulse 62; cephalalgia and pain in the bowels gone; had a good night.

Other diseases in which it has been used with advantage are lung fever before expectoration, or after it has become very copious; brain fever or cephalitis and delirium from inflammatory fever; in watchfulness, either from fever or nervous excitement, it often proves the best anodyne or hypnotic that can be used, and it possesses the advantage over opiates of not producing subsequent cerebral congestion.

While writing these remarks I have a patient with an affection of the brain, the twelfth day of the disease, who had been delirious for two nights and two days and without sleep, with lucid intervals. One tea-spoonful of the sol. pruss. pot. was given at 8 P. M. and direction to continue the medicine, thirty drops every second hour until sleep was induced, and then every fourth hour. In the morning I was informed he had slept all night, except when waked; took only two doses after the first; is sane, and has been so with one exception. Pulse 104; yesterday 132. Eight o'clock this morning pulse 76; has been calm; no delirium; dose of thirty-five drops every fourth hour.* It is a valuable remedy in the convulsions of children after proper evacuations.

2. *Diaphoretic.*—It sometimes acts in this manner on the system, but in no cases that I have observed except where there was excessive vascular action and increased heat of the skin. Under these circumstances it has occasionally acted as a diaphoretic, but apparently this effect was an indirect one; the result of its sedative action, reducing the heat and circulation *down* to the *sweating point*, in a similar manner to bleeding in inflammatory diseases.

3. *Astringent.*—This effect is seen in its power of diminishing excessive discharges; but whether it be a primary, direct, or indirect effect, I am unprepared to say.

Its powers are most conspicuously seen in the colliquative sweats attendant on chronic bronchitis and phthisis. It will also lessen very much the quantity of expectoration in these diseases, when that is great and easy. To secure all these effects, it must be exhibited regularly three, four, or six times in twenty-four hours, in as large quantities as the patient can bear without sensibly diminishing the strength, or very much embarrassing expectoration.

Leucorrhœa.—In a few cases this disease was entirely removed by the use of this article. One female, who has long been troubled with

* In the case just referred to there is to-day a *very copious diaphoresis*, induced probably by this medicine.

this complaint, and formerly with menorrhagia, has for two years past, kept this article by her, and when the leucorrhœa was brought on by over-exercise, which was very apt to occur, she invariably was able to remove it in a few days. Before using this article, she had tried the various remedies in common use in the profession, but had received no permanent benefit. She was one of those delicate, feeble, nervous constitutions, that perplex physicians so much and often, in devising remedies which their idiosyncrasies will tolerate. And for her nervous complaints, as cephalalgia and watchfulness, and pains in the limbs, no anodyne does so well as the ferro-cyanate. For a number of years she has been the subject of chronic gastritis.

It will, not unfrequently, if continued some time in full doses, produce *ptyalism*, with redness, swelling, and tenderness of the gums and apthæ of the mouth and fauces, but no swelling of the salivary glands or fœtor of the breath have been noticed, the absence of which symptoms leads me to the conclusion, that the ptyalism is not produced by any accidental admixture of mercury in the preparation, as has been supposed to be the cause of the hydrocyanic acid sometimes producing ptyalism. In two cases of *diarrhœa* it suppressed the discharge. In neuralgic pains of the head, face, teeth, and side in some cases, it has afforded very prompt relief. In *coughs* dependant on *bronchitis*, when the expectoration is loose and easy, it is a valuable article. In the latter stages of *hooping cough*, if judiciously managed, and the system kept uninterruptedly under its influence, I consider it the best article that I have ever tried, and believe it has the power of abridging very much the time and sufferings of the subject of this disease. But it must not be exhibited until the bronchial membrane has taken on the secretory and excretory action. When the cough is hard and dry, it should first be altered by emetics, cathartics, and expectorants to one of a hurried kind. When given in an over-dose it occasions *vertigo*, *coldness* and *numbness*, with a sensation of *gastric sinking*, sometimes *universal tremors*, as in an ague fit.

Dose and form of administration I prefer a *solution*, as more convenient in gradually augmenting the dose. It is made as follows:—
℞. Ferro-cyanatis potassæ, ℥ij.; Aquæ puræ, ℥j. M. ft. sol. O this solution I give from thirty to sixty drops—ten to twenty grains. Thirty drops is the minimum dose for an adult when to be repeated, and while the system is under the influence of one dose of sixty drops, it cannot safely be repeated. Forty-five drops—fifteen grains is as large a dose as it is safe to give as often as once in four or six hours.

The remedy I have used with very prompt relief for an over-dose, is the aromatic tincture.

What precise relation there is between this article and the hydrocyanic acid, the cyanuret of potassium and the hydrocyanate of potassa, (although I have used all these articles, and am satisfied that there is a difference in their properties,) I am as yet unable to point out.

Kennebeck, August 29th, 1834.

ART. VI. *Cases in Midwifery*. By JOHN P. HARRISON, M. D. of Louisville, Kentucky.

CASE I. *Uterine Hæmorrhage—Placenta over the Os Uteri.*—Mrs. Lumphres, a poor white woman, was seized on the 10th of February, 1822, with uterine hæmorrhage. When I saw her on the same day, there was a rapid emission of blood, but no symptoms of prostration. She was seven months, as she stated, advanced in pregnancy; had several children living, and was in the enjoyment of good health, though possessed of a feeble frame.

She was ordered to remain in bed; cold applications were used about the pelvis, and a dose of laudanum given. These measures restrained the flow of blood, and hoping that further attendance was uncalled for, on the 11th I left her, with some general directions respecting exercise and diet. On the 12th, at ten o'clock at night, I was hastily summoned to her by her husband, who thought her to be rapidly sinking. Upon my arrival, I found her greatly depressed, having lost a large amount of blood from the uterus.

An examination per vaginam soon taught me that delivery of the child by turning was the only possible measure that could save my patient. The os tinæ was partially dilated, and quite dilatable; the placenta was spread entirely over the orifice of the womb, and the blood was found issuing from its ruptured vessels in profuse currents at several points of its torn-up attachment.

Dr. J. C. JOHNSTON was sent for to aid in the delivery of the child. This was accomplished, after much difficulty, by the gradual dilatation of the os uteri, and the seizure of the feet of the child and turning; there was no uterine effort until the membranes were ruptured, then the contractile power of the organ was developed, and materially co-operated in the manual interference. The difficulty of the delivery

was much enhanced by the supervention of the delirium in the patient—almost pulseless. She struggled incessantly to escape from the operation, so that we had to perform it by a forcible detention of the patient in bed.

In introducing the hand for turning, the placenta was not directly penetrated, but detached from the uterus by a gradual insinuation of the fingers between it and the uterine parietes.

The hæmorrhage ceased as soon as the uterus began to contract, which ensued directly upon the rupture of the membranes and the bringing down the feet. The waters were allowed gradually to escape, by keeping the fore-arm now in the vagina, closely wedged in on the sides of the passage. After bringing down the feet, a slow traction was exerted on them, by which slow withdrawal of the child the uterus was more effectually excited to action than by a rapid process of artificial delivery.

There was no hæmorrhage after delivery; the womb contracted into a firm, globular mass; the placenta had been removed by the descent of the child's body.

The child was dead. The delirium still continued, and the poor woman, now cold at the extremities, and without pulse at the wrist, seemed in articulo mortis.

Warm flannels were applied to the extremities, and she was placed between blankets. An injection of a tea-spoonful of laudanum in some warm spirits, was thrown up the rectum, and being unable to swallow, nothing more was attempted for the time. Reâction took place in a short time, and a little wine and water were administered. She slept a few hours, and a partial restoration of her faculties, with a small, quick pulse, and warm extremities announced that the recuperative energies of the system had done their work.

She complained much of head-ache, palpitation of the heart, and want of sight during the forenoon of the 13th February; and in the afternoon of the same day, there was considerable heat of the surface; much disturbance of the brain, denoted by floccilation; tinnitus aurium and head-ache; and the pulse was now full, rapid, yet fluent and compressible. A purge of five grains of calomel and ten grains of rhubarb was given at four o'clock, P. M. and cold applications were used to the scalp, after the removal of the hair. By great vigilance and care on my part, and that of her nurse, she recovered, though slowly.

CASE II. *Puerperal Convulsions—A Twin Case in a Negro Girl of fifteen years of age.*—A black girl, belonging to A. P. of this city, nurse to Mrs. P.'s youngest child, whilst in the country, nine months

before, was forced into sexual connexion by a young white man, (such was the old black nurse's tale.) On the 2d May, 1824, at eight o'clock, P. M. I received a hasty summons to visit this girl. When I arrived, she was in a strong, general convulsion, and had been convulsed for half an hour. It had come on suddenly upon the first faint indications of labour. She was a short, thick-built, chubby creature, with a large head and neck. I bled her a quart, but with no abatement of the violent convulsions. In half an hour another vein was opened, and after losing another quart of blood there seemed some mitigation of the eclampsia. Soon after the second bleeding, two other physicans arrived, and in consultation it was agreed, after waiting about an hour to see if the convulsions would gradually subside, to again bleed the patient, and throw up the rectum a stimulating cathartic enema. Upon taking sixteen ounces of blood from the arm, the pulse sunk; the bowels were partially acted on by the injection; but the eclampsia recurred, after short intervals, with unabated vehemence; an entire abolition of all consciousness, and incapability of deglutition were still present.

We determined at ten o'clock that night, that nothing but delivery could save the patient. There was no uterine action appreciable by us, but an evident dilation of the os tinæ had commenced. Turning was attempted, but failed, from the enormous distention of the uterus; the membranes, too, had ruptured spontaneously, which still further enhanced the difficulty of delivery by turning. The common forceps for delivery were found inadequate to reach the head which presented, nor would the degree of dilatation of the orifice of the womb admit of the employment of forceps.

As the whole cast and complexion of the case were full of peril to the patient, it was determined to perforate the head of the child, and then apply the crotchet. This being done, there was not much difficulty in delivering the child. After the delivery of the child, we soon discovered that there was another in the uterus. This one was rapidly thrown off by the now rapid contractions of the uterus. The ergot of rye had been given to the amount of forty-five grains by enemata, before the perforation of the head, but no action was induced by it at the time, in the expulsive energy of the uterus. The two placentas were quickly expelled after the delivery of the second child, which was still-born. An opiate was administered per anum after the delivery was effected; the system was greatly prostrated; and a convulsion, but of a feebler character, occurred every fifteen or twenty minutes. Nor did they cease until next day, but gradually

became less violent and protracted during the twelve subsequent hours from the time of the completion of parturition. She had a slow, but uninterrupted recovery.

CASE III. *Shoulder Presentation, in which the Arm was brought down, and afterwards Delivery accomplished by bringing the Head down along side of the Arm.*—This was a badly managed case at first; for an old ignorant negro midwife had been the first assistant of nature in the case, and then an almost equally ignorant man-midwife, calling himself doctor, had been engaged in it; and afterwards a physician, who declined acting at all, because it was not to his taste to undertake such an enterprise.

December 23d, 1830, a medical friend, who was incapacitated from attending the case from ill health, requested me to see this patient. I found a black woman, who had borne several children, in a small log-house, or cabin, in the edge of the city, lying in bed, with no hæmorrhage, and but an occasional labour pain, with part of the forearm and hand of the child hanging out of the vulva. The old black midwife informed me that she had been with her since the day before; that the labour commenced last night; the waters were discharged, but still the child did not come down. Becoming alarmed, she sent for Dr. W. who brought the arm down, and there left it; and after fumbling about the matter some time, abandoned the case to nature and destiny. Dr. ——— was then sent for, who declined interfering, alleging as a reason, that the woman's owner had not requested his attendance.

Dr. ROGERS being the family physician, was requested to see the woman, and he being very unwell, desired me to go to the case. I had the woman's bed placed before a large fire—for the night was very cold—and placed her on the edge of the bed, with her legs separated and drawn up by her husband and the old midwife. Having bared my arm, and oiled, or rather larded it well, I took my seat directly in front of the patient, on a low stool, and then gradually introduced my hand into the uterus. This was no easy work, because the arm of the child lay in the vagina. I soon found it impossible to turn, as the uterus had firmly grasped the fœtus. My only chance of successful delivery, without perforation of the chest—a truly operose task, under the circumstances of the case—was to bring the head down along the side of the arm. This, upon trial, was not so difficult as I anticipated; for it was but a six months' child, and the soft parts were quite dilatable. Slowly, by a persistent force applied to the body, through the arm of the child, the uterus was dilated so as to admit of one finger of the operating hand to be brought to bear on the

chin of the child, and the head thus very gradually brought down along side of the arm. Delivery then rapidly took place, and the placenta was thrown off very soon afterwards. An opiate was administered, and the woman put to bed. She had an easy recovery.

CASE IV. *Retention of the Placenta twenty-seven days after the Expulsion of the Fœtus*.—In the afternoon of January 3d, 1833, I was requested to visit a poor white woman, named Baker. I found her in bed, and an old coloured midwife with her, who stated that about three hours before my visit, Mrs. Baker, having had pretty cutting labour pains, though it was several months before her proper time, got up to go to the vessel to evacuate her bowels, and whilst there, the fœtus suddenly escaped from her into the chamber pot.—The umbilical cord was ruptured, and the placenta retained. There was little or no hæmorrhage, either at the time of the expulsion of the fœtus, or subsequently. Upon examination, I found that there was no hæmorrhage, and no labour pains, but that the placenta was still in the uterine cavity.

This, apparently, was a fair and unexceptionable case in which to try the parturient efficacy of the ergot of rye; and most faithfully and extensively was it tried—it being given first in fifteen grain doses, every half hour, and then in drachm doses every half hour, until near half an ounce was administered. Producing sickness of the stomach, it was laid aside, without any contractile effort being produced by it in the uterus.

This is the second case of retained placenta, in which it has failed in my hands of inducing expulsive movements in the uterine fibres. The other case was a lady who aborted at the fifth month of uterogestation, and whose placenta was retained without hæmorrhage. Having failed with the ergot, given to a large amount, the placenta was taken away by the hand.

In Mrs. Baker's case, both the medicinal and manual resources failed. After waiting till ten o'clock at night, the hand was introduced—the patient being placed on her back, with the knees drawn up, and the thighs flexed on the body. But after the most careful and persevering effort on my part, for half an hour, to bring away the placenta, I had to desist, for the poor woman seemed exhausted. She had been in a delicate state of health, previous to this abortion, and had aborted several times before; and, in one of these instances, a similar difficulty occurred. Next morning, a consultation was held on her case, and efforts again made to bring away the placenta, but they proved unsuccessful.

The placenta was attached to the upper part of the fundus of the

uterus, and there existed a strong contraction of the body and neck of the organ, which prevented a seizure of the after-birth by the hand. No hæmorrhage nor after-pains existed even at this period.

As the case appeared one in which the *nimia diligentia* might endanger life more than a partial surrender of the case into the hands of nature, we determined to sustain her general strength by mild tonics and appropriate nutriments, to employ injections into the vagina, of bark, myrrh, and charcoal, to abate the fœtor of the discharges, and watch the emergent phenomena. The patient gradually increased in strength, and after going about her house for about a week, after getting out of bed, on the twenty-seventh day posterior to the abortion, the placenta came away suddenly, with little or no pain. There had been a slight discharge from the vagina, subsequent to the 3d, which was not, however, very offensive. The placenta was small, and gave very little evidence of putrefaction.

CASE V. Rupture of the Uterus at the Fifth Month of Pregnancy.—This was a patient of Dr. Rogers, of this city, who requested me to witness the post mortem inspection. It occurred in a black woman, who had borne several children, and who was in excellent health.

On the afternoon previous to the day of the autopsy, she had taken rather a long walk; and on her way home she felt, as she described her case to Dr. Rogers, a sudden and severe pain, and a sensation “as if something had given way within her.” Such was the violence of the pain, that she had to stop and remain on some one’s steps about an hour and a half. However, she walked home, but with great difficulty. Passing her master’s residence late in the afternoon of the day she was seized, the doctor was hailed by her, as she stood in the door of the basement story, and desired to alight from his horse, and prescribe for her relief. Supposing her attack to be colic, he gave some oil and laudanum. At that time her pulse was good, and her skin of a natural temperature; but she could not lie down without great pain, and her abdomen was greatly distended. She said, whilst the doctor was examining her, that she felt “a tearing within, as if something was giving way.” She grew rapidly worse, and was found by her master, late at night, in a dying state, on the kitchen floor.

Inspection of the body.—Abdomen as much distended, though in a more diffuse manner, as that of a woman near the full period of pregnancy. Upon opening the cavity of the abdomen, a large quantity of coagulable blood was found; and after the removal of this, amounting to at least four quarts, the uterus was seen ruptured, and the fœtus enveloped in the membranes, having entirely escaped into the cavity of the abdomen. The rupture included the fundus and a small part

of the body of the uterus, and was in a transverse direction, viz. from one Fallopian tube to the other. The os uteri was impervious, and all the amniotic liquor remained in the unruptured membranes. The whole fœtus had escaped from the uterus, but the placenta remained within, attached to the body of the womb, and was not displaced.—There was no extenuation at any point of the uterus, nor any appearance of disease in any other part of the abdominal or pelvic regions.

CASE VI. *Inflammation of the Fallopian Tubes and Ovaria, terminating in Purulent Deposit, with a fatal catastrophe.*—I was requested to meet Dr. TALBOT, of this city, in the case of Mrs. T. wife of a respectable merchant, who had been quite ill for two or three weeks. This was on the 18th of May, 1834. I found her with fever, hot skin, and a quick, small pulse; tongue with a slight fur on it; bowels easily acted on by medicine; stomach affected with incessant nausea, and incapability of retaining either medicinal or dietetic articles. There was a tumour in the left iliac fossa, just below the anterior superior spinous process of the ileum; it was not very painful on the application of the fingers to it; there was great pain in the sacrum, and down the left thigh. Severe pain was produced by the introduction of the pipe of the syringe into the rectum, and much difficulty in administering an enema successfully, from some obstruction in the gut, either from a diseased condition of its coats, or from some adventitious body pressing on, and diminishing its calibre. Upon examination per vaginam, I found the os tincæ tumid and irritable; the lady complaining greatly on pressure of the finger on the part. She was of a delicate frame of body, but had always enjoyed excellent health, until within two months. She had been married six months, and had menstruated regularly up to this period; but during the last two catamenial efforts, she experienced considerable pain, and shortly subsequent to the last monthly period the tumour made its appearance. Dr. Talbot had treated her by liberal depletion, and a blister had been applied to the tumour. As the time of active treatment had gone by, and she was greatly reduced by the depletion she had undergone, and the cutting off of all supplies to the system by the indomitable irritability of the stomach, we turned our attention to quieting of that organ, and the restoration of the tone of the digestive apparatus, at the same time employing counter-irritants and revulsives. to the surface over the pelvis, and keeping up a soluble state of the bowels. By this course of procedure, the stomach was enabled to take lime water and milk, and then milk, with ice in it. The warm bath, and the assafœtida injection up the rectum, were found eminently conducive to the tranquillity of the system.

After eight or ten days, my attendance on the case was discontinued, and I did not see her again until June 29th, and then she laboured under symptoms of tubercular consumption, with hectic fever and night sweats, and that confident assurance of recovery, so characteristic of that fatal malady. The stomach was still irritable, but the tumour had disappeared, and she had passed through two menstrual periods without any additional pain; the fluid discharged at each time was healthy in its aspect, except not so highly coloured by the hæmotosine of the blood, and it was in a diminished quantity. In a few days after my last visit she died. Permission was given to open the body.

Upon opening the abdomen, the stomach was found entirely natural in its appearance; the mesenteric glands were enlarged, and the lungs contained some miliary and aggregated tubercles, but not in a state of suppuration. The important lesions were found in the uterine economy; both Fallopian tubes were enlarged, especially the left one, which was much distended and prominently pushed upwards, the fimbriated extremity being adherent to the left ovarium. The ovaria were enlarged, and a copious deposition of coagulable lymph had formed a mass of morbid substance between the ovaria, which matted them together, and which was firmly united to the rectum, and pressed upon that gut. There was about an ounce of laudable pus in the left Fallopian tube, and about three drachms in the right tube. The tubes were impervious to a small probe from the uterus. The os tincæ was tumefied and red, and there was a slight lining of pus on the internal surface of the uterus. The rectum and bladder were both implicated in part in the morbid action of the uterine apparatus, their coats being thickened or hypertrophied.

CASE VII. *Diseased Fallopian Tubes*.—Elizabeth Lowry, a courtesan, quite young, and delicately framed, was taken to the City Hospital, or Alms-house, last spring. She had what the surgeon in attendance considered the venereal, and was treated in accordance with this view of her case; but her disease continued until unequivocal symptoms of pulmonary lesion arose.

I first saw her several weeks before her death; she then was labouring under hepatization of the left lung, as indicated by the usual physical signs, colliquative diarrhœa, and constant purulent discharge from the vagina. Her menses had been suppressed from the period of her admission into the house; and in the first of her sickness she had suffered from pain in the pelvic region. There was no perceptible enlargement of any organ contained either in the abdominal or pelvic cavities.

Inspection of the dead body revealed the following lesions:—A few scattered tubercles in the right lung; the left lung hepatised throughout two-thirds of its texture; the other thoracic viscera sound.

Abdomen.—Liver enlarged; stomach healthy; slight enlargement of mesenteric glands; numerous and deep ulcerations in the ileum and cœcum; in some places the mucous coat was entirely destroyed.

The uterus was of the usual size in women who have never borne children, and of a healthy aspect; but its internal coat was lined with pus of a thick and creamy appearance. The Fallopian tubes were enlarged to about an inch in circumference, and filled with a caseous secretion, and two small tumours, composed of a similar matter, were situated at the root of each tube, exterior to the tube and uterus. The fimbriated extremities of the tubes were adherent to the ovaria of their respective sides. The ovaria were healthy in their size and colour; the communication between the uterus and tubes was not open on either side; the bladder and rectum were not structurally affected.

Louisville, (Ky.) November, 1834.

ART. VII. *Observations on Lepra and Psoriasis.* By C. W. PENNOCK, M. D.

LEPRA and **Psoriasis** of the classification of **BATEMAN** and **WILLAN**, correspond with the *herpès furfureux circiné*, and the *herpès squameux lichenoïde* of Professor **ALIBERT**. They form an important group of the cutaneous diseases of the genus *squammæ*, and are more frequently presented to medical observation, than either of the other affections comprised in that division.

No appellation in medicine has probably caused more confusion than that of *Lepra*; most of the older writers seem to have applied the term to a great variety of diseases essentially different from that to which it is now restricted. “The details of the worst forms of all diseases,” says **PLUMBE**, “appear to have been constantly selected as the foundation for a description of *lepra*, as if the latter comprehended only what was disgusting or terrific in appearance, or incontrollable by any known scientific means.” Happily the former obscurity of the term has been dissipated by the researches of **WILLAN**, **BATEMAN**, and **TURNER**, and with the exception of **ALIBERT**, pathologists are agreed as to the value and signification of the word.

In the following observations, lepra, in accordance with the definition of Willan, signifies a cutaneous squamous affection, characterized by round patches, raised on the borders, depressed in the centre, from which exfoliations of diseased cuticle take place, independently of any vesicular or pustular formation.

This disease make its appearance by the formation of slight elevations resembling enlarged papillæ of the skin, which are firm and solid, and which are covered with thin, dry scales; small circular and raised patches of diseased surface form; the central portion soon becomes healthy, leaving raised circles of morbid structure of the skin. In the subsequent observations, the changes which the disease presents in its various stages, will be given in detail.

Psoriasis bears so striking an analogy to lepra, that both have been considered as being essentially the same disease. In each the commencement is by small and hardened elevations, covered by thin, dry scales; the causes producing them are the same, and the only important difference existing between them, are the varieties of figure. In confirmation of the truth of this position, it may be observed, that spots of lepra corresponding with the description of Willan, are frequently seen intermixed with those of the irregular patches of psoriasis.* Facts in accordance with this view, will be seen in the following cases.

M. BIERT, to whom the medical world is so greatly indebted, has recently added to the therapeutic agents for the treatment of these diseases, by presenting to our view details of the successful employment of a new combination of iodine, (the ioduret of ammonia,) as a local application to the morbid surfaces. Several instances of the signal advantages of this practice will be exhibited in the ensuing observations.

CASE I. *Lepra Vulgaris*—Cured by the *Homœopathic Treatment*—Relapsed at the end of five months.—Labbé, a locksmith, aged twenty-one, light hair, fair skin, and though of a lymphatic constitution, his general health is good. His parents were free of cutaneous disease.

The patient entered l'Hôpital St. Louis in March, 1833.

In the month of March, 1832, he was affected with severe itching sensations, commencing on the scalp of the head, which, in the space of a week extended over the body to the thighs. The disease of which this was the precursory symptom, resembled exactly, (says

* Plumbe on Diseases of the Skin. Art. Psoriasis. Duffin on Squamous Disorders, (Edinburgh Medical Journal, January, 1826.)

the patient,) the present affection. Under the treatment by sarsaparilla, alkaline and sulphur baths, and the internal use of pills, (the composition of which is not stated,) he recovered at the end of three months.

In the following July, the disease reappeared on the legs, arms, and on the head, in the form of small scales on a red base, which was slightly raised above the level of the skin; these scales were dry, and of a white, shining, micaceous appearance. The elevations were circular, and varied in diameter from two lines to half an inch; they were equally raised in the centre, as at the circumference, and touched each other at their outer border. Their appearance was that of psoriasis guttata. They covered the back, breast, and the external part of the superior and inferior members. The patient was ordered a solution containing $\frac{1}{1,000,000}$ th part of a grain of arseniate of potash, which was prepared in the following manner:—A grain of the arseniate of potash was dissolved in an ounce of water, which contains six hundred drops; one of these drops containing one six-hundredth of a grain, was put into an ounce of distilled water, of which one drop then contained one thirty-six hundredth of a grain of the salt, and thus the dilution was proceeded in, until the minute dose of a millionth part of a grain was obtained.

The patient was interrogated each day respecting his feelings, the state of the secretions, &c.; in a word, as regards his general health. No perceptible effect was produced, yet notwithstanding this, the patches became smaller, the desquamation ceased, and on the places which had been affected by the disease, circles were seen, where the skin was grayer than that of the healthy parts, but without being either raised or depressed; these spots rapidly became paler, and the patient left the hospital on the 3d of June, completely cured. He had taken during his residence there, one eight-thousandth part of a grain of arseniate of potash.

The 2d of December, 1833, the patient reentered the hospital. The psoriasis had reappeared in the scalp in the form of small circular spots, from two to three lines in diameter, very little raised, and covered with scales; there were also some on the back. As long as they were from two to three lines in diameter only, they were equally elevated on all parts, but as soon as they increased to the size of a ten cent piece, they healed in the centre, the borders remained elevated, and formed circles, from which the desquamation was trifling. The scales are of a pearly white, the size of the bran of wheat.

Remarks.—This case is an example of *lepra vulgaris* better characterized than any I have observed. It should be remarked, that

it commenced in the form of psoriasis guttata. This, in fact, in all the cases which I have seen, is the beginning of lepra. Ordinarily, however, psoriasis diffusa is observed as intermediate between the guttata and lepra; in this instance the transition was direct from the primitive form to that of lepra. The rapid disappearance of the squamous disease, whilst the patient was under the homœopathic treatment, is certainly very remarkable; but does the case prove that the cessation of the disease was due to the administration of the *one eight-thousandth part of a grain of arseniate of potash*? Is it not rather an instance, illustrative of the fact, that lepra does sometimes disappear spontaneously?

CASE II. *Psoriasis Guttata and Diffusa, with Lepra Vulgaris—Treated by Frictions of Ioduret of Ammonia*.—Christopher, a weaver, twenty-seven years of age, was received in the Hospital St. Louis, in November, 1832. He has red hair, his stature is short, is thick set and very muscular.

In the month of November, 1827, isolated and distinct pustules appeared on both his arms.

In February, 1828, these pustules became more numerous; but in the month of May they were cured by the application of a domestic remedy consisting of a mixture of salt, pepper, and butter. At that time some small, dry scales on the arms were observed, but which shortly afterwards disappeared; the scales however reappeared in the following August. They were situated on small, rounded, red elevations. In October the patient saw some which were half an inch in diameter on several parts of the legs and body, and in February the body was covered with these patches.

On the 18th of March, 1829, he entered the hospital of Nancy, where he was placed under the treatment of frictions with calomel ointment, and the internal use of pills of the *Polygonum bistorta*, by which means the disease was diminished in intensity. Subsequently the patches were cauterized with nitrate of silver, and several of them disappeared. This amelioration was but momentary, and on the 4th of November he left the hospital; the eruption having been but slightly modified. In the winter of 1829 and 1830, the itching sensation had almost ceased on the diseased parts, though the patches had increased in size, and the scales which covered them were greatly augmented.

During the year 1830, he renounced all treatment, and the disease was not changed in its character.

In June, 1831, he cauterized himself with an empiric solution, the composition of which is unknown, which caused a prickling sen-

sation in the diseased surfaces, and the patches disappeared. The eruption reëappeared in November, and he reëntered the hospital of Nancy, and remained there some time without any amendment, and subsequently entered the Hôpital St. Louis.

April, 1832. Present state.—The arms and legs of the patient present,

First. Spots, some of which are as large as the hand; others the size of a ten cent piece, red, raised, and covered with scales, which are dry on their internal and external surfaces, and of a pearly whiteness.

Secondly. Circles from one to two inches in diameter, of which the borders are elevated and covered with scales, whilst the central portions are healthy, and on a level with the sound skin. These are situated principally on the abdomen.

Thirdly. Other spots of the size of a small pea, which are slightly raised above the skin, are of a bright red colour, which disappears upon pressure, and are covered with minute scales having the characters of those first mentioned; these elevations are the seat of violent itching. In the course of two months these spots become much enlarged, and form patches an inch in diameter, the skin in the centre of which is without scales, smooth, and healthy; the outer border remaining elevated, and covered with small, dry scales.

During two months, pills of the sulphuret of antimony were administered to the patient, but were discontinued in consequence of the violent gastric pains which they caused. From the 22d of April to the 22d of July, the tincture of cantharides was exhibited without producing any sensible change.

He left the hospital about the first of August, and again became a patient at the Hôpital St. Louis on the 6th of September. At that time the squamous state of the skin was similar to that already described, with the exception that none of the spots presented the appearance of psoriasis guttata.

The treatment was resumed by exhibiting two, and subsequently four drops, three times a day, of Fowler's solution, which was continued during a month without producing any diminution of the eruption; the itching sensation however was greatly aggravated, and on the 2d of October, M. GIBERT directed the employment of frictions with the ointment* of the ioduret of ammonia, ℥ss. morning and evening. These frictions were continued twenty-nine days; the patient then took eight alkaline baths.

* The formula for the preparation of this ointment varies in proportions of the ioduret, from ℥j. to ℥j. to an ounce of adeps. The weaker preparation

The result of this treatment was very satisfactory; all the spots entirely disappeared. There places were indicated by a slight red colour, in which neither elevation, fissures, nor induration of the skin were observable.

November 8th.—No frictions had been used for twelve days. Two or three spots appeared on the arm. He was directed to use frictions on the affected limb, but not on other parts of the body.

December 5th.—The disease reappeared on all sides; on the edges of the old cicatrices on the formerly healthy parts of the skin. He engaged himself as servant in an apothecary shop, and renounced all treatment until the ensuing winter.

Remarks.—In this case, lepra, and two forms of psoriasis were seen on the body of the same individual. It goes strongly to confirm the opinion which has been previously expressed, that lepra and psoriasis are essentially the same disease. The case is also interesting, as showing the frequent recurrence of the affection, after the skin had apparently regained its normal structure.

CASE III. Psoriasis Inveterata—treatment by the Sulphuret of Antimony—subsequently by the Ointment of Ioduret of Ammonia.—Barré, forty years of age, a shoemaker, of a feeble constitution, sallow complexion, and of an appearance resembling that of the cretins of Switzerland. His mother had a cutaneous affection, but his father was free of it. His nourishment in early life consisted of pork and vegetables; he had good health until he was eighteen years old, since which he has been much afflicted with intermittent fevers.

In the spring of 1809, the present disease commenced behind the ears; the desquamations were dry, farinaceous, and accompanied by itching: in the course of a month the whole head was covered by the eruption. He remained in this state four years, during which period he drank habitually an infusion of the water dock, (*Rumex aquaticus*. L.) and abstained from salted food. The disease continued to spread, and a number of patches of psoriasis guttata covered the stomach, breast and back; these diseased spots were the seat of violent itching. The legs and arms were not much affected.

In 1817 he entered the hospital of St. Louis, where the treatment consisted in the administration of Fowler's solution, vapour and simple baths. He remained in the hospital thirteen months, and left it nearly cured.

Ten months afterwards the psoriasis reappeared, and in 1820 he being used when the disease is recent, and the stronger when it is chronic. As the ioduret decomposes by exposure to the air, the ointment should be kept in stopped bottles.

reëntered the hospital. He was under treatment for nine months, and when discharged was well, with the exception of the head.

In 1828 he again became a patient of St. Louis: no amelioration resulted from the treatment, and he left the institution at the end of seven months. Since that time he has been employed in a stone quarry, and his nourishment has been tolerably good.

On the 22d of October, 1832, he was admitted again into the hospital of St. Louis. The treatment at first consisted in the infusion of succory; subsequently that of hops, conjoined with pills of the sulphuret of antimony. Of the latter, commencing with one pill a day, and gradually increasing the dose, he took sixty-three pills in thirty-four days.

December 15th.—The disease by this treatment was changed in its character; the scales becoming much thicker. The entire scalp is covered by small yellowish scales, which extend over the forehead and temples. On the nape of the neck, and on the back, are twenty patches of various sizes, elevated, red, of a circular form, and covered with light, dry, thin scales. On the breast are two large patches; one of which was cauterized a month ago by the pernitrate of mercury, but the scales have again formed upon the cicatrized surface. Five patches are seen on the abdomen: on the forearms several eruptions originally distinct from each other have united, and envelope the limb in its entire extent.

The skin covering these surfaces is raised, red, traversed by numerous transverse furrows, which are again crossed by superficial depressions running longitudinally. From these intersections result small squares, covered by dry, white, thick scales, which are very different in appearance from those of psoriasis diffusa.

Around the knees, and on the ankles, are depressions analogous to those on the arm, but the elevation of the patches is much less than those of the superior extremities. A large spot of psoriasis occupies the inferior surface of the abdomen, and is seen amidst the hair of the pubis. Every two or three days the patient has four or five alvine discharges, accompanied by slight colic. (Continue pills of the sulphuret of antimony.—Infusion of hops; warm bath three times per week.)

February 25th.—No very marked melioration has taken place; the only change observed is, that the scales are not so thick as formerly. Frictions to some of the patches with the tartar emetic ointment.—Suspend the antimonial pills.

28th. The patches of psoriasis to which the ointment has been applied five times, have become of a deeper red colour, accompanied

with great heat and intense itching; minute pustules of the size of a pin's head are seen disseminated over their surface; the scales have become thick, soft, of a yellow colour, resembling the scales of impetigo.

March 2d.—The pustules have become much larger; scabbing has commenced in the centre. The yellow scales are thicker and larger.

6th. The scales are more than a line in thickness; they are of various shades of yellow, and are absolutely the same in appearance as the scales of impetigo.

April 21st.—The experiment with the local application not producing any beneficial result, M. Biett directed the internal use of the tincture of cantharides. The dose was at first small, (six drops three times a day,) and rapidly increased. This plan of treatment was abandoned a month afterwards, as it caused nausea and diarrhoea, without producing the slightest change in the diseased surfaces.

During the summer he became an assistant in the clinical wards, and no active treatment was attempted; occasionally a sulphur bath was directed.

October 26th.—The disease covers the same surfaces it did in the spring; the patches are less elevated; the desquamation not so abundant, and the skin is smoother. Frictions with the ointment of ioduret of ammonia, \mathfrak{z} ss. to be used each day.

December 28th. Present state.—The psoriasis of the arms is much modified in its appearance; the patches are very slightly elevated; they are of a pale red colour, which disappears under the pressure of the finger, and the cracks and furrows formerly observed, have almost entirely disappeared; a slight formation of thin, small and dry scales is still seen. Interspersed amongst these spots are portions of skin, which is not rough, hard or dry, but which has become soft and pliant; in a word, perfectly healthy.

The patches of psoriasis of the body have undergone the same alterations as those of the arms; they are less numerous, very slightly elevated, and the desquamation is altogether furfuraceous. None of these spots present the rough cracked appearance which was formerly seen upon their surfaces.

Remarks.—In consequence of leaving Paris I was unable to follow the case to its termination. The disease was evidently nearly cured, and the favourable change dates from the period of the employment of ointment of the ioduret of ammonia.

The observation presents a well-characterized example of psoriasis inveterata, in which the surface was deeply penetrated by fissures, and in which the scales covering the diseased surfaces were thicker

and larger than in the other varieties, and generally quadrangular in their forms.

CASE IV. *Lepra Vulgaris*—Cured by the Supervention of Small-pox. January 7th, 1834.—Auguste Bursy, aged twenty-one years, locksmith, born at Lille, (department du Nord,) entered the ward of St. Laurent to-day. He is a large, strong man, having a firm constitution, and with the exception of a blenorrhagia contracted five years since, and which continued three months, he has enjoyed until the appearance of the present disease almost uninterrupted good health.

Six months ago a cutaneous affection appeared on his legs; a month afterwards it was seen on the arms; two months subsequently upon the back, and six weeks since it made its appearance, first upon the epigastrium, and then upon the breast. All these eruptions when first observed presented small red spots, slightly raised above the skin, and resembling flea bites; the spots increased in size, became of a brighter red, and an exfoliation of light farinaceous scales covered their surface. Other spots succeeded the first, and formed by their reünion circular and elevated patches. The central portions of most of these elevations soon assumed a healthy appearance, the scales fell off, and the skin presented its usual level.

In consequence of this change, circles of the squamous disease have been formed, varying in size on different parts of the body.

On the legs are circular patches of four inches in diameter, whilst on the arms they do not exceed an inch and a half. Some of the patches, however, have not undergone this change, and present the appearance of psoriasis guttata and psoriasis diffusa.

On the face the disease has existed; but the scales have fallen off, and the elevations have disappeared; it is, however, the seat of severe itching whenever the patient becomes heated. Treatment. Infusion of succory for his habitual drink; warm baths and a pill of the deut-
torioduret of mercury, containing one-sixth of a grain.

January 14th.—The pills have been gradually increased to three per day.

15th. Four pills of deut-
torioduret.

17th. Five pills.

18th. Five pills; slight pain felt in the throat.

19th. Six pills.

20th. Some pain in the abdomen; anorexia; tongue pointed, and slightly increased in redness. Five pills of the ioduret.

21st. Cephalalgia, colic and vomiting during the night; had one alvine dejection. The pulse is now of small volume, and frequent; skin warm; thirst; tongue white in the middle, and red on the edges.

Head-ache continues, with pain at the epigastrium and in the throat. The circles of lepra are surrounded by light red areolæ. Infusion of mallows; lavement; vegetable soup.

22d. Pulse more frequent and more developed; skin hot; tongue pointed, white in the middle, and red on the edges; breath feverish; pain in the epigastrium and throat continues; cough; no alvine evacuation; has vomited twice.

23d. During last night delirium; he rose from bed and wandered about the ward; the pain in the head was intense, accompanied by vertigo. Epistaxis occurred twice. The fever was without remission; no sleep; sensation of picking in the eyes.

The entire body to-day is covered with red spots, some of which are extremely small, and resembling the prick of a needle; others are larger, from one line to an inch and a half in diameter, convex, without any white central point. The circles of lepra are surrounded by red areolæ; around the spots where the disease existed on the face this red band is elevated. The eruption is confluent upon the sides of the nose, and upon some portions of the cheeks. The skin is hot; pulse full and strong; tongue red on the borders; two dejections. No itching sensations exist on the surfaces affected by lepra. Infusion of mallows sweetened; six leeches behind each ear; cataplasm to epigastrium; sinapisms upon the ankles.

23d. The patient was much better after the local depletion, the leeches drew well: the cephalalgia has disappeared, and the pain in the throat is much diminished. In the course of the night the epistaxis again recurred; he has had some agitated sleep. The pulse this morning is full, but not hard; skin rather warmer than natural; the tongue is clean in the middle; the eyes are no longer watery; pustules have not yet formed in the variolous eruption; its elevations are red, convex, no central depression. The variola exists also in the patches of psoriasis and circles of lepra; the squammæ of these diseases are much elevated by the variolous eruptions, and are easily detached from their summits. The small-pox does not appear modified or changed in its character by the squamous disease, being neither more or less advanced where it exists than elsewhere. On the entire face the variola is confluent. Yesterday the left cheek was cauterized by a solution of nitrate of silver, grs. vj. to distilled water, ℥ss. the only effect which is observed is merely a deeper tinge of that part of the face than of the other surfaces.

24th. Agitated dreams throughout the night. Angina is more painful; the eyes watery; no epistaxis; frequent sneezing; the tongue as

yesterday; no head-ache. The eruption presents a white appearance, some of the elevations are depressed in centre. On the surfaces of psoriasis and lepra the pustules are confluent, and form either patches or circles of variolous secretion; the progress of the small-pox on these points is the same as on the body where these diseases do not exist. On the legs the variola is less advanced than on the superior extremities, and the pustules are less numerous. Six *léesches* behind each ear; sinapism to the feet.

25th. Had one hour of disturbed and restless sleep. Constipation for four days; tongue white in the centre, red and with some pustules on its borders; pulse frequent and very hard; some cough; vomiting when the drinks are not warm. Calomel, grs. iv.

26th. In the central portions of the lepra are observed some isolated pustules of variola; on the circular elevation the disease is still confluent. Tongue dry and brown; pain still exists in the throat. Constipation continued. Pulse hard and frequent. Lemonade and an emollient injection.

27th. The face is covered with yellow crusts; eyes watery and dim. Some of the isolated pustules are depressed in centre, others are not; they contain a serosity which is white in some instances, and in others limpid. The confluent pustules which occur on the leprous surfaces, are covered with the scales of that disease which are much raised above their former level by the effusion beneath them. The pustules which were touched with nitrate of silver three days since, are still convex in their form. Pulse is full and very frequent; tongue is covered with brown fur on its upper surface, but is white on the borders. Three liquid dejections during the night. The angina less painful. Cough not so frequent. R. Lemonade with the following potion to be given through the day.—Infusion of mallows, \mathfrak{z} iv.; Lactucarium, grs. vj.; Laudanum of Rousseau, gtts. iv.; Simple syrup, \mathfrak{z} j. M.

28th. The patches of psoriasis on the legs are much elevated by the variolous secretion beneath them; the patient in scratching them has torn off the scales, and the rete-mucosum that has been thus exposed is red and thickened; tongue white and moist; throat less painful; some epistaxis, but little cough; alvine dejections frequent. No delirium, but the mind of the patient is dull, and his replies to questions are incorrect. The greater part of the face is covered with a thick coating of yellow and brown scales. Some small isolated pustules are seen on the body in the centres of the lepra, and are all flattened and depressed in the centre.

29th. No pain in the head or throat; no cough; no change in the

state of pustules; those which were not depressed some days since, continue convex. The eyes are red and dim; pulse frequent, but much less so than yesterday.

30th. Scabs on the face are very thick; pustules of the superior and inferior extremities are convex, and filled with a purulent serosity. Pulse full and frequent; tongue red, and rather dry, in consequence of the patient being obliged to breathe through the mouth, the nasal passages being closed. Odour of variola from the patient's body. Slept all last night. Potion of mallows, &c.; an injection, and weak vermicilli soup twice in the day.

February 2d.—The greater part of the pustules have dried up; those of the hands only, remain distended and convex; others are torn, and beneath their surfaces is seen a dry, red tissue. The scabs are loose on the lower part of the face. No itching sensation is felt upon the body. No pain in the throat; no cough; tongue natural; eyes red and watery; pulse rather full. Sleeps well; two alvine evacuations; has a good appetite. Lemonade for drink, and continues the soup.

4th. The pustules have disappeared, and are replaced by yellow crusts, around which are the edges of the epidermis. Pulse continues frequent; tongue natural. The surfaces which the lepra covered, are indicated by large red circles. Soup three times, and an egg.

6th. All the pustules have dried away, and are transformed into small, yellow patches, slightly raised; the scales of the face have almost entirely fallen off; some furuncles are seen on the legs. One alvine dejection.

10th. The entire surface of the body of the patient is covered with spots of a rose-colour, which indicate the former seat of the pustules of the small-pox. The circles of lepra are of a pale-red colour, but do not form scales. The tongue is white in the middle, without redness on the edges. Appetite good. One-fourth of full diet.

15th. After a bath the traces of the variola presented a brownish red appearance. The surfaces occupied by the lepra have the same colour, and are still slightly raised above the level of the skin; the scales, however, have not been reproduced. The general health of the patient is excellent. One of the furuncles has healed; the other is still large and painful.

21st. Some scales appeared on some points of the lepra, but they are very few, very small, and not very apparent.

March 5th.—On some points exists an acute eruption, which ap-

pears to be psoriasis or lepra. This eruption, however, soon disappeared, and he left the hospital on the 3d of April, perfectly well.

Remarks.—Small-pox is more frequently observed as a complication of the pustular affections than of the squamous diseases. In this instance the coincidence of the disappearance of the psoriasis, with the cessation of the variola is certainly remarkable, and it would indeed seem, that the latter disease had had a positive curative influence over the first. In the next case death resulted, and the autopsy permitted an examination of the seat of the respective diseases.

CASE V. *Psoriasis Diffusa*, (*Dartre squammeuse lichenoïde* of Alibert,) complicated with *Variola*—*Death*—*Autopsy*.—Charles Bunnel, shoemaker, aged twenty-six years, born at Versailles, (department of Seine and Oise,) entered the hospital on the 19th of December, 1831, affected with psoriasis diffusa, which had commenced the September previous, and which, the patient says, was caused by domestic misfortunes.

The first spots appeared on the back of the hand, and on the anterior surface of the knee. He endeavoured to check the progress of the affection by drinking the infusion of succory and of anise, and by restricting his diet.

January 4th. Present state.—The shoulder, forearms, and back of the hands, are covered with spots, which vary from a line to an inch and a half in diameter. On the arms the patches are distinct, whilst on the hands they run into each other.

Two large patches occupy the anterior surface of the patella, and about thirty of various dimensions are scattered over the thighs; twenty of a very small size are seen on the legs, and two on the upper surfaces of the feet. All these eruptions are raised above the skin, and are covered by white farinaceous scales.

Eleven days after the entrance of the patient in the hospital, a loss of appetite and a general sensation of uneasiness was experienced; he was seized by chills, followed by fever, cephalalgia, nausea, and vomiting. The chills and fever continued three days, and were complicated by a sore throat, which still continues. The cephalalgia and vomiting ceased two days since.

On the 2d of January small red points resembling flea bites were observed on the forehead. The eruption of variola soon manifested itself among the patches of psoriasis on the thorax, which are nearly encircled with a broad red line, in which the commencing pustules are plainly seen. This red appearance is not observed accompanying all the spots of psoriasis, and is as wide around the small spots as around the larger. On the face, where there are a few patches of

psoriasis guttata, the small-pox is confluent. The eruption of the variola is not influenced by the existence of the psoriasis, the pustules not being more numerous near this disease than elsewhere. The eyes are slightly injected; the pulse full and slow; the patient has a severe cough. R. Edulcorated infusion of mallows.

4th. The pustules of the arm are distended and slightly flattened on the top; those around the patches of psoriasis are less so, being confluent; on the body the variolous eruptions are not all depressed in the centre. The face is covered with a thick crust; the eyes red and watery; several pustules surround the eyelids; the pharynx and uvula are very red, and the palate is covered with white, flattened pustules of small-pox. The tongue is red, dry, and cracked. Deglutition is difficult; thirst very great; pulse full and frequent; constipation; nausea, especially after drinking the infusion of mallows. R. Almond mixture, and application of calomel ointment to the eyelids.

6th. The eruption is still more abundant; the bands which surround the patches of psoriasis are not influenced by the vicinity of the squamous affection. Pulse frequent and full; fever during the night; intense angina; deglutition more and more difficult; tongue red at the tip, the rest covered with a yellow coating; the eyes are red, watery, with some squinting. Inclination to coma; ideas wandering. R. V. S. ζ vij.

7th. The patches of psoriasis are raised above their usual level in consequence of an infiltration of serosity beneath their surfaces, which exudes upon pricking them with a needle. Their inflamed areolæ have become white from the infiltration. Pulse full and frequent; the coma is less; intelligence good. The left eye is much inflamed. The pustules of the palate, as well as those of the tongue, are depressed in the centre; the last are covered with a thick yellow coating. The angina, pain and inflammation of the eyes are less violent since the bleeding. Prescription. As a gargarism use the following:—R. Lettuce water, (Eau de laitue,) Oj.; Honey, ζ j.; Laudanum of Rousseau, gtts. x.

8th. Delirium through the night, with nausea and vomiting. The patches of psoriasis are more elevated to-day than yesterday; those of psoriasis guttata on the face, however, are not so prominent. Some points of a new eruption of this disease have appeared on the body. Pulse frequent and weak; deglutition is almost impossible; the tongue is dry, and covered with a yellow coat; the cavity of the mouth is covered with pustules; some pain upon pressure upon the

epigastrium; the eyes are red and dim, the lids inflamed. The scrotum is deprived of its epidermis by rubbing against the thigh. The prostration of the patient extreme.

9th. The pustules have become more flattened, and are drying away; they are encircled by areolæ of a deeper red colour than those of the psoriasis. The eyelids are red, inflamed, and covered with pus; the pulse full and frequent; the nose and mouth are closed with dark thick scabs; the angina undiminished; no delirium; constipation continues. R. Calomel, grs. iv. to be given in two doses.

10th. The patches of psoriasis are raised from one to three lines above the portions of healthy skin, but the quantity of serosity beneath them is very small. The pulse full and frequent; delirium, with carphologia. Since 11 o'clock yesterday swallowing is easier; no nausea; the edges of the tongue are covered with pustules; no pain upon pressure at the epigastrium. Twelve leeches to the neck. Muttering delirium continued through the day, with great restlessness. He died at 1 o'clock at night.

Autopsy, twenty-four hours after death. Cranium.—The cerebral veins were engorged with blood; the sinus of the dura mater, as well as those of the brain, were empty. The medullary substance of this organ firm, and clotted with red points of blood.

Face.—Conjunctiva of left eye very red and inflamed; olfactory membrane covered with pustules.

Respiratory organs.—Mucous membrane of the epiglottis of a deep red colour; very small pustules are seen in the glottis. The mucous membrane of the larynx and trachea is much injected and thickened; that of the bronchi of a scarlet redness to their most minute ramifications. *Lungs.*—Crepitant in some portions, but generally engorged with black blood, as in death from asphyxia. *Heart.*—Natural.

Digestive apparatus.—Tongue covered on the edges with eight or ten pustules; amygdalæ swollen. Pharynx red; the superior portion covered with large variolous pustules; no preternatural redness of the œsophagus; its glands are of the size of a millet-seed; on some parts its epidermis is detached. *Stomach.*—Mucous membrane of a browish-red colour; its consistence normal. *Duodenum.*—Mucous membrane of a pale red, not softened. The follicles of Brunner were numerous in the upper portion of the intestine. *Peyer's glands* were not developed. Towards the last fourth of the small intestines, Brunner's glands were much enlarged. The *ileum* was of a deep red near its junction with the cœcum. In this last intestine the follicles were of their natural size. The mucous mem-

brane of the colon was red for the space of a foot; the follicles of the rectum were visible, but not as much enlarged as those of the small intestines.

Skin.—The pustules of variola, as well as the patches of psoriasis, are not so elevated as during life. Upon examination of the pustules of the small-pox, the cutis vera was found perfectly healthy; the superposed layers described by CUTUGNO were very evident, and coloured by blood from the capillary blood-vessels of the skin. In the patches of psoriasis, the derma was also found in a normal condition, but the rete-mucosum was exceedingly red, and the sanguineous infiltration much more copious than in the variola, giving a red tinge to two false membranes, which were separated by bloody pus.

Remarks.—I am indebted to my friend, M. MARTINS, Aide Naturaliste of the School of Medicine of Paris, for the preceding case. It exemplifies the fact of inflammation of the rete-mucosum as an attendant upon, and probable cause of psoriasis. M. Rayer states, that this is always the pathological state of that portion of the skin in this disease. Plumbe ascribes it “to a chronic inflammation of the vessels secreting the cuticle, producing morbid growth of this structure, and generally dependent on debility of the system.”

CASE VI. *Psoriasis Diffusa and Lepra Vulgaris*.—A boy, named l'Anglais, sixteen years of age, born at Mons, entered the ward of St. Prosper in the month of October, 1831. His constitution is good, and previous to the appearance of the present disease he had never had any sickness. His father had a cutaneous affection which appears to have been psoriasis.

The disease commenced in the summer of 1829, by two spots half an inch in diameter, situated on both knees, which remained there for a year; these places were the seat of violent itching. In July, 1830, they spread over the whole body, taking the form of psoriasis guttata.

On the 8th of August he entered the Children's Hospital, when the treatment consisted of the sulphur and gelatinous baths, and drinking vegetable infusions. He remained in this hospital eleven months, and then left it nearly well. In the following August the psoriasis reappeared after working in the harvest field. The whole body was covered at the same time with small patches which itched violently. He reentered the hospital in September, 1830, when he was treated by iodine used internally and externally during a month, and for the following eight months by an infusion of hops and simple baths. The disease was lessened by this treatment, but not cured. He left the hospital the beginning of October.

On the 14th of October, 1831, he entered the Hospital of St. Louis, and for a month drank the infusion of hops with ʒij. of subcarbonate of soda to the quart, and used the sulphur baths daily. At the end of November pills of the sulphuret of antimony, (of commerce,) each containing two grains were administered. During the first two days he took but one pill, after which two per day were given. He took ten baths.

December 14th. Present state.—Above and below the knees are eight or ten spots, red, raised, cracked, but not much covered with scales, from which with the nail can be taken a light powder.

On the back are seven circular patches varying in size from a quarter of an inch to an inch in diameter. In the middle of the back are two or three circles of *lepra vulgaris* which touch each other at their circumference, and the centres of which are healthy; their outer edges are red, raised, cracked and covered with irregular scales. On the breast and stomach are a dozen patches of various forms and dimensions; some, (those of the breast,) take the form of *psoriasis dif-fusa*, whilst those of the stomach resemble *lepra vulgaris*.

On the arms are seven or eight patches of *psoriasis*, varying from three lines to an inch in diameter.

The treatment by the sulphuret of antimony was continued until the 7th of February, during which time he took sixty pills, without, however, producing any disposition to vomit; he had usually one alvine evacuation a day, and the tongue continued moist, and of a pale red. In addition to the eruptions previously mentioned, yellow scales appeared on the top of the forehead and among the hair; the surfaces which they covered were neither as much raised, nor as red as the other parts of the body, which were affected with cutaneous disease, although the itching sensation is greater.

February 27th, 1832.—From the seventh of this month to the present time, the treatment has been changed to the arseniate of ammonia, but without any alteration in the disease.

The greater part of the patches round the knees have become circular, the centre of which are neither raised, red, nor covered with scales, but present a cracked uneven surface; the circumference is red and raised, on which white scales are observed. (*Lepra vulgaris*.)

Above the left knee is a patch where the change has not been completed, the centre of which however has commenced healing.

On the back, the three circles which touched at the circumference have become one, with serrated edges; the seven other patches are reduced to six, by the union of two, which were at the edge of the shoulder blade; three of these have commenced healing in the centre.

The spots on the breast and stomach are no longer separated, but have all united into one. On the arms there is no change. From the 26th of March, the following potion was taken daily:—Lettuce water, \mathfrak{z} iv.; Tinct. of cantharides, gtt. vj.; Simple syrup, \mathfrak{z} j.

The tincture thus combined, was exhibited until the dose was gradually increased to twenty-five drops. After two months, although no nausea existed, yet a pain in the epigastrium with a sensation of oppression at the lower part of the chest were induced, and the medicine was discontinued. The disease had been meliorated under the influence of this treatment; the spots became less elevated, the desquamation was not so abundant, and none of the patches spread over the healthy parts of the body; owing however to the epigastric symptoms above mentioned, M. Biett determined to discontinue the cantharides.

During the months of June, July and August, the treatment consisted in an infusion of hops and alkaline baths.

On the 7th of September recourse was had to the ointment of ioduret of ammonia, which was used for two months without any favourable result; the disease on the contrary spread on all sides, and its reëpppearance was increased by allowing the patient wine.

December 11th.—The disease presents the following appearances, which add confirmation to the position, that lepra and the varieties of psoriasis are essentially the same affection. On the lumbar regions are two ellipses, of which the diameters are respectively three inches by one inch, touching each other at their circumference, and of which the central parts are healthy.

On the middle of the back is observed a circle five inches in diameter, of which the central parts are healthy.

Within two months past two small patches of psoriasis diffusa of one inch in diameter have appeared on the upper portions of the back.

On the regions of the sacrum are observed analogous patches, as well as another of two inches in diameter, of which the central parts are becoming healthy.

On the abdomen and anterior surface of the thorax are observed vermiform patches, which commence near the right arm pit, pass over the right breast, and assuming a spiral form, terminate at the anterior superior spinous process of the os ileum of the left side. They are formed by eruptions forming incomplete circles of an inch in diameter, touching each other at their circumferences, (psoriasis gyrata of Biett.) These patches are the remains of the old eruptions: the recent, which have existed for a month, from circular patches contiguous to each other, varying from two lines to an inch and a half in

diameter, and presenting the appearance of psoriasis diffusa and guttata.

Near the elbow joint are large continuous patches in which the skin is much raised, very hard, cracked, covered by thick dry scales, and having all the characters of psoriasis inveterata.

On the hands are patches of psoriasis guttata, which have appeared within a month, the scalp, forehead, and the posterior part of the cheeks are covered with scales, so hard and thick as to resemble a plaster mask. These scales present all the varieties of size which are seen in the different forms of psoriasis; they are, however, invariably dry, cracked, and of a pearly colour.

The general health of the patient is excellent, and within the last two months he has become remarkably fat.

Remarks.—In this case is presented a very rare form of psoriasis, that of psoriasis gyrata. M. Biett has met with but four instances where this sinuous arrangement of the patches has occurred. An instance where the spiral form was even more marked than in this case, was observed at the Hôpital des Enfants Malades, in the summer of 1832.

The excellent state of the patient's general health does not appear to have had any effect in modifying the diseased state of the skin.

CASE VII. *Psoriasis Inveterata of the Head, right arm, and of the Scrotum—Treatment by Pearson's Solution—Convalescence.*—Brocheton, a cooper, fifty-seven years of age, five feet high, very large and extremely strong, has never had the least indisposition, and has a very good constitution.

In the month of March, 1814, he was wounded by the fall of a chimney, to which accident the patient ascribes the origin of his present disease. This idea must, however, be incorrect, as he dates the commencement of the affection from 1823 to 1824.

The psoriasis commenced at the scrotum by an itching sensation. He continued working at his trade, and was in the habit, whilst warm, of going into cold cellars, and drinking whilst there, from one to two bottles of wine a day. The desquamation of the skin was slight.

In 1824 the psoriasis appeared on the arms, by an eruption of psoriasis guttata, which was afterwards seen on the stomach, and subsequently on the head. It is impossible to obtain from this patient a more detailed account of this case. He made great use of vapour and sulphur baths, which lessened the affection, but never caused it entirely to disappear.

October 10th. Present state.—The external two-thirds of the right arm are covered with continued patches, of which the base is a pale

red, slightly raised above the skin, the surfaces of which are covered by large, thin, dry scales, of a pearly whiteness, and are separated by longitudinal ridges. Other elevations are observed, from which the scales have been torn by the nails of the patient, leaving the red surface exposed. Instead of the borders ending abruptly by round edges, as psoriasis usually does, this case presents a different appearance. The diseased surfaces gradually lose their elevation; the red colour of their base changes by insensible degrees to a light brown, and this again into the natural colour of the healthy skin.

The second remarkable circumstance is, that there is no trace of other spots or patches of psoriasis, either near the large one on the arm, or near those of the body.

An eruption like that on the arm surrounds the neck. The scrotum is hanging, has a red dry appearance, and is covered with scales of a yellowish colour; so that without the psoriasis of the body, it would be taken for an eczema; frictions having modified the appearance of the scales.

The entire scalp is affected, and the scales which are there of a more brilliant white than on the body; they are very small, and resembling the furfuraceous appearance of pityriasis; on the anterior part of the cranium the red base and elevations of psoriasis is scarcely visible: on the back part of the neck, on the contrary, the rounded edges and raised border are covered with tolerably large scales. It would seem that the neck is covered by psoriasis, whilst on the anterior part of the head an eruption intermediate between pityriasis, rubra, and psoriasis is presented.

Treatment.—In thirty days the patient took twenty-four and a half drachms of *Pearson's solution*, during which time his usual drink was an infusion of the *saponaria officinalis*, under which treatment the affection was mitigated.

December 31st.—This psoriasis has followed an uncommon course; the centre of the large elevation on the right arm presents the appearance of a healthy surface; its border is semilunar, and is higher in the middle than at the edges, which are on a level with the surrounding skin. The red colour is less intense, the desquamation not so great, and one-third of the patch on the right side has disappeared. It is evident the patient is convalescent.

The patch on the left arm is on a level with the surface of the skin, and there is scarcely any desquamation. Those on the head are in the same situation. The edge of one of the eruptions on the head was much elevated, and very abrupt; it has also changed so as to be

on a level with the skin; there is very little redness, and but few scales.

CASE VIII. *Cutaneous Affection, Intermediate between Psoriasis and Eczema*.—Deligny, a labourer, aged fifty-seven, was born at Routigny, (department de Seine et Marne;) he received twenty sous a day for his work, and his nourishment consisted of bread and cheese, of soup two or three times a week, and in the same period he usually drank ten or twelve glasses of brandy. The patient, whose intelligence is extremely limited, thinks that the disease was first observed in the month of August, 1832.

It commenced on the right elbow, by the formation of thin scales; afterwards on the head, from whence great quantities of farinaceous scales were detached. Towards the beginning of November the cutaneous affection extended over the whole body, and in consequence of the occurrence of fever, he was obliged to enter the hospital.

March, 1833. Present state.—On the back are observed patches of diseased skin, varying from two lines to an inch in diameter, and of an elliptical form. These portions are covered with scales, which being detached, the skin is seen of a pale red colour, in most instances not raised above the sound skin, and in others very slightly elevated. The scales on their external face are white, micaceous and reticulated; internally they are slightly yellow. They are evidently formed of the epidermis, and appear to be composed of two laminæ.

Towards the back of the neck, and on the shoulders the patches unite, and form a continuous series; the skin composing them is red, slightly raised above the level, humid from serous effusion, and covered with dry, thin, yellow scales. The same appearances are presented on the abdomen as on the back.

On the arms, particularly on the internal parts, are seen spots, (plaques,) which are raised the fourth of a line above the sound skin, of a red colour, and from two lines to an inch in diameter, and covering the elbow joint; these spots are divided longitudinally by furrows, and the desquamation consists of crusts which are yellow, of various forms and dimensions.

On the scrotum, and on all the inner surfaces of the thighs, the skin is red; these parts are covered with thin yellow scales, some large, others small, varying from a line to half an inch in diameter. The internal face of these scales is generally humid, and on the whole of the inner part of the right leg is an abundance of serous exudation. On the legs the scales do not present the white micaceous aspect that is seen on those of other parts of the body.

On the scalp, the eruption has the appearance of psoriasis.

The treatment of the disease consisted in the exhibition of minute doses of calomel, the free use of sulphuric lemonade, (composed of sulphuric acid, syrup and water,) application of the tar ointment, and the daily use of the local vapour baths. The diet of the patient was also restricted.

Remarks.—I was not able to follow out and study this case, in consequence of leaving Paris. It offers a very interesting variety of cutaneous disease, which would seem to be intermediate between psoriasis and eczema. It, however, presents more of the characters of eczema than of psoriasis; the resemblance of the scales to those of the latter disease is owing to their persistence and becoming dry.

Although eczema and psoriasis would seem at the first glance to be extremely different in their characteristics, yet there are many points of resemblance.

Those are as follows:—

First. The epidermic secretions.

Secondly. The slow progress and chronic character which each may present.

Thirdly. The red coloration of the skin.

Fourthly. The intense itching.

The differences may be thus shown.

First. The elevation of the derma. (*Psoriasis*.)

Secondly. Vesicles at the commencement. (*Eczema*.)

Thirdly. Serous effusion, accompanied by the epidermic secretion. (*Eczema*.)

Lastly. The skin smooth and shining after the cure. (*Eczema*.)

General Remarks.—Upon an analysis of the preceding cases, as well as some others in the writer's possession, it is observed, that the disease first appeared on the superior and inferior extremities, especially in the vicinity of the articulation, in seven out of ten instances; on the head twice, and once on the scrotum. In every case the disease commenced with the sensation of burning and itching, and the primitive appearance was that of enlarged papillæ, which were soon covered by the formation and exfoliation of minute and dry scales. The papular appearance increased, assumed a form more or less circular, the surface of which did not manifest a central portion of sound skin previous to having been covered by squammæ. The primitive appearance of lepra and the varieties of psoriasis were the same, and in two instances, patches of the former were intermixed with those of the latter; these facts, coinciding with the observations of pathologists of other countries, warrant the opinion, that the dif-

ference of the disease is merely in the form, and that essentially they are but varieties of the same affection.

In one-fifth of the cases, one of the parents of the patients had had a squamous affection. No facts were presented which induced the idea, that the disease had been the result of contagion. The observations having been confined to persons in the poorer classes of society, no comparison could be instituted between them, and those surrounded by more comforts. Most of the patients were persons whose general health, previous to the disease, had been good.

One of the individuals attributed the origin of the disease to domestic chagrin. It is certainly remarkable, that a moral cause should produce such an effect upon the skin, but similar cases have been frequently remarked. Plumbe relates two highly interesting cases of that character.* He remarks, that "the class of persons who appear to be most subject to it, (*lepra*,) are those who minds are anxiously occupied by the cares of business or study, or who are accustomed to bodily exertion beyond what their strength enables them to bear."

Respecting the pathology of these affections, writers are far from being unanimous in their opinions. Alibert observes with great truth, "Ce qui deconcerte l'observateur lorsqu'il est à la recherche des causes qui influent sur le développement de l'herpès, c'est de voir, ce genre d'affection se manifester chez des sujets qui jouissent, au moins en apparence, d'une santé parfaite.†" Plumbe thinks that the vessels which secrete the cuticle, are the seat of chronic inflammation, which renders the production of the epidermis more abundant, and causes the exfoliation of the scales. This hypothesis is imperfect, as it does not account for the circular form which the patches of *lepra* present. M. Rayer attributes the diseased action of the cuticle to the inflammation of the *rete-mucosum*. In case fifth of the preceding series, this condition of the mucous tissue was observed; how far it had been influenced by the existence of *variola*, the writer is unable to determine.

This disease presents some peculiarities in the seat which it may occupy, which it is important to notice, but the limits to which this essay is necessarily restricted, prevents the examination of the subject in all its details. The history of these varieties are very satisfactorily given by M. Biett.‡

* Plumbe. Art. *Lepra*, p. 145.

† Alibert. Clinique de l'Hôpital, Art. *Herpes*.

‡ Cazenave on Cutaneous Diseases, p. 258, American Edition.

Considering the different forms of *lepra* and *psoriasis* as being essentially the same disease, I will not attempt the diagnosis between them. The eminent authors who have written on diseases of the skin, have pointed out their differences with great minuteness and precision. The presence of dry scales in this disease is a sufficient character to prevent it being confounded with the cutaneous affections of the other orders. Sometimes, however, the primitive exfoliation is superseded, or attended by serous or sero-purulent appearances; in this case the presence of vesicles or pustules may be detected on examination, and the scales are not dry, gray, and friable, but are large, soft, and humid concretions of the effused fluids.

Chronic eczema in some instances presents appearances very similar to *psoriasis*; this is particularly the case when it affects the head. In this case, although the scales may be dry, yet upon examination immediately behind the ears the surface will be found moist, and vesicles are occasionally seen in the vicinity. *Psoriasis* of the scalp may be distinguished from *ptyriasis* by the thickness of its scales, and by the solid papular indurations, which are more or less prominent.

Some of the varieties of the syphilides appear at first sight to resemble *lepra*. The form of these eruptions is round, and presents tubercular elevations of the skin; they are to be distinguished by their livid, copper colour, by the smoothness of the tubercles, which are seldom covered by scales, and in the rare cases in which the exfoliation presents itself, the scales are smaller than the circumscribed induration which they surmount. The diseased skin in the scaly affection of syphilis does not present the dryness and roughness so remarkable in *lepra*, and the circles of the patches are rarely perfect. Again, the history of the affection and the attendant symptoms will dispel any doubts which may have been entertained.

Treatment.—Pathologists differing respecting the seat of the disease, present views equally adverse in regard to the treatment. Rayer founding his opinion on the idea, that an inflammation of the rete-mucosum is the pathological state of the skin, recommends venesection, and the application of leeches to the diseased parts, upon their first appearance. Plumbe, on the contrary, regarding this affection as the result of debility, directs his entire attention “to the restoration of the strength of the patient to its original standard, not simply before the cutaneous disease appeared, but even before those habits or pursuits were adopted, which for years may have preceded it.” Hence he urges the importance of placing the patient under circumstances favourable to the invigoration of the general health.*

* Plumbe, *Art. Lepra*, p. 155.

It would seem impossible to lay down any positive and unvarying plan of treatment, occurring as the disease does, in the poor, enfeebled by every variety of privation, and in the rich, surrounded by every comfort and luxury; in fact, the practitioner must be directed by his own discrimination.

The practice of M. Biett is, if the patient be young and vigorous, the skin inflamed and red, the pulse full and active, to have recourse to venesection, simple baths, diluent drinks, rigid diet, and rest. He disapproves of the application of leeches as never producing any beneficial effects. In those cases where the patient is old, enfeebled by disease or insufficient nourishment, and where there is not evidence of much inflammatory action, tonics should be administered. At St. Louis, where the class of patients are those who have been subjected to much privation and distress, the practice last mentioned is resorted to, until the state of the system is such as to support active treatment. The external applications in use at that hospital, and which have been attended with useful results, are the various preparations of iodine, combined either with sulphur, (grs. xv. to grs. xx. of the proto-ioduret to $\mathfrak{z}\text{j}$. of axunge;) or the proto-ioduret of ammonia combined as mentioned in the first part of this essay. Whilst the patient is on the use of a bitter infusion, (generally that of hops,) frictions with these ointments are made morning and night on the patches of the eruption. The result with the ointment of the ioduret of ammonia has been previously stated; that with the ioduret of sulphur is such as to warrant the continuance of its use. In a case of psoriasis diffusa, which I have recently had under my charge, the result of the treatment with friction with the ointment of the ioduret of mercury has been very satisfactory. M. Alibert used with much success the ointment of the white precipitate of mercury. Plumbe recommends in strong terms the following external application:—*R.* Hydrarg. subm.; Plumb. superacet. aa . $\mathfrak{z}\text{ss}$.; Ung. hydrarg.; nitrat; ung. cetacei, aa . $\mathfrak{z}\text{ij}$. *M.*

Baths are of much use in exciting the circulation, in producing a more natural state of the skin, inducing perspiration, and by detaching the scales. They must be directed on the principles previously mentioned; using the simple, emollient, or narcotic baths when much inflammatory action exists, and the more tonic in cases of enfeebled states of the system; sulphurous, sea water, alkaline baths, and those of the preparations of iodine, are then considered as most useful.

Vapour baths, either general or local, are also useful auxiliaries in the treatment of these affections.

As regards the internal treatment, Biett places much reliance on purgatives of calomel, (either alone or combined with jalap,) when

administered in the forming stage of the disease. It is found to be particularly valuable in cases of children. He counsels its administration in small, in preference to large doses, with the view of producing a slow, rather than a sudden change in the system.

The tincture of cantharides has often produced much beneficial effect in chronic cases, or where the disease has reappeared, or where it exists in persons of enfeebled constitution. His mode of administering this preparation is from three to five drops in a tea-spoonful of sweetened water or ptisan, in the morning previous to eating. The state of the digestive and urinary organs are to be closely attended to, and if no epigastric pain, nausea, purging, or ardor urinæ should be induced, it may be augmented five or six drops a day, until twenty-five to thirty drops a day have been administered. In exceedingly inveterate cases of this disease, all the preceding treatment has been found to fail; in such cases the exhibition of Fowler's and Pearson's solution has succeeded. The commencing dose of Fowler's solution being three drops in some inert vehicle, and gradually augmenting until twenty-five to thirty drops per day have been administered. Pearson's solution being much weaker, may be given in the dose of a scruple, increasing to half a drachm. The preparation of the arseniate of soda is applicable to women and debilitated persons. In the administration of these remedies, the medical observer should keep constantly in view the injury which the gastro-intestinal mucous surfaces may sustain, and cease the exhibition of these preparations upon the slightest manifestation of diseased action.

M. Biett reports several cases of psoriasis inveterata, where he obtained satisfactory results by the administration of the arseniate of ammonia used in the same doses and under the same circumstances with the arseniate of soda.

In psoriasis affecting the prepuce, the application of mercurial ointment should be used. In psoriasis scrotalis, fumigation with sulphur, or cinnabar is found very efficacious.

ART. VIII. *On the Influence of Vaccination in counteracting the effects of Small-pox Contagion.* By WILLIAM BROWNE, M. D. of Fredericksburg, Va.

THE small-pox, it seems, has, for several years past, been epidemic on the continent of Europe, and been very destructive; our own country has not been exempt from this scourge, and in several sections of the United States it is even now prevailing. For many years we fondly flattered ourselves that we possessed in vaccination

a never-failing preventive of this most offensive disease. Late events, however, have considerably shaken this confidence, even among the members of the profession, and doubts and fears have usurped its place. It is a matter of the deepest interest that this subject should be thoroughly investigated, and the influence of vaccination in counteracting the effects of small-pox contagion, be if practicable, clearly and satisfactorily defined. I know of no condition of mind more affecting and distressing than that which would drive us from the bedside of suffering friends, or agitate us with a continual dread of imbibing a deadly poison when ministering to their wants and comfort, whilst they are labouring under a loathsome and destructive disease. So long as uncertainty prevails, this state of mind must exist, and it becomes a matter of serious importance that we should endeavour to establish on positive evidence how far confidence in the profilactic virtues of cow-pox, should go, and where it should stop. In conducting our investigations, speculation will profit little—facts must be collected, and all the circumstances connected with, and explanatory of them, carefully noted and compared, before a satisfactory solution of the difficulties which surround this subject, can be expected. Fully impressed with its great importance, and of the care and attention which should be observed in recording facts, I shall proceed to detail several cases which have, within a few years past, occurred in my practice, and which have strongly tended to convince me of the thoroughly preventive efficacy of vaccination. In the winter of 1830, a company of Indians passed through Fredericksburg, on their return from Washington City; one of whom, a woman, had the small-pox, which she communicated to several individuals in the town. On their way south, this woman called at the house of a Mr. Lewis, a few miles from town, and the cook, a female servant, who had never been vaccinated, was exposed to the contagion. No suspicion was excited by the eruption which disfigured the face of the Indian, until information reached them of the existence of the disease in Fredericksburg. More than three weeks elapsed after the exposure, before I vaccinated this servant; I at the same time vaccinated thirty others, who were in an unprotected state. Fortunately all the cases succeeded, and the disease passed through its several stages with singular regularity. As soon as the vesicle on the cook's arm began to dry, she was seized with a chill, which was soon followed by those symptoms which usually usher in an attack of small-pox. These continued for three or four days, when an eruption appeared on her face, arms, and various parts of the body. On the appearance of the eruption, the general symptoms left her; on the sixth day from the commencement of the erup-

tive stage the pustules began to dry, and in a week more were separating in honey, black crusts. Few pustules appeared in this case, and the contained matter did not exhibit the appearance of genuine pus, but looked more like pus dissolved in water. At my request, many of those who had just passed through the vaccine disease, were permitted free access to this woman throughout the whole course of her indisposition—not another case of eruption occurred. Many cases of small-pox, and possibly some of varioloid, occurred in Fredericksburg in the course of the winter, but as they were sent immediately to the hospital, which was under the charge of another physician, I had little opportunity of examining them.

The disease did not again visit us until March, 1834; at that time, a free coloured boy, who attended on board one of our steamboats, and who had just passed through the small-pox in Baltimore—the scabs still adhering to his hands and feet—visited his relations in this place. The family consisted of his mother, two brothers, and a sister, neither of whom had ever been vaccinated or had small-pox. The elder brother first took the disease, which assumed a mild, distinct form, and passed over without difficulty. On the third day of the eruption in him, the mother sickened and had the disease very severely. Vaccine virus could not be procured until the second day of the eruption in the last case; it was then introduced into the arms of the remaining two, who had been exposed in the same room, directly to the influence of the small-pox contagion, from the commencement of the disease. On the fourth day their arms exhibited marks of inflammation. On the eighth the vaccine vesicles were regularly formed, and each was seized with fever. The girl's was slight and interrupted, only for a few hours; she attended to her ordinary occupations about the house. With the boy it was different; his fever ran so high as to require active depletion, and on the evening of the third day of its continuance a scattering eruption made its appearance about his hands, face, and breast. The eruption matured and scabbed much earlier than in the two first cases, and the matter and scabs, which were carefully examined, corresponded in colour, appearance, and consistence, with those which occurred in the case at Mr. Lewis's.

In the following May, two cases occurred on my own lot, in two servants; the one, a male infant, fourteen or fifteen months old; the other, a girl, sister of the first, about five years old. The girl did not break out for eighteen or twenty days after the appearance of the eruption in the child, and obviously contracted the disease from him. It is difficult to account for the manner in which he got it, as he had been confined mostly to the premises, and had never, as far as can be ascertained, been directly exposed to any source from which he

could have derived the infection. Both these cases were mild. There were on my lot, at that time, twenty-one or two individuals, only four of whom had passed through the small-pox—two of my own family, and two old servants. All the rest had had kine-pox, except the two above mentioned, who had been vaccinated, but did not take the disease. No effort was made to separate the sick, and I do not believe there was an individual on the premises who was not exposed to the influence of the contagion at least once in every forty-eight hours throughout its entire continuance, and many were in the sick room several hours daily. Two elder sisters of the sick children attended to, and slept with them. The infant, during its sickness, was very fretful, and for the purpose of keeping it quiet, the nurse lay frequently, for hours together, in its cradle, with her face in contact with the child's. Two large pustules appeared on the side of her forehead, which rested against the child's face, which last was generally covered with pus; no constitutional symptoms, however, showed themselves whilst the pustules continued. After they had dried, and scabs had formed, the girl had slight fever and head-ache, which lasted a few days, and which I attributed entirely to fatigue and want of rest. The other sister, who slept with the elder child, had six pustules—three on one of her arms, and three on the corresponding shoulder, parts which were uncovered, and to which the virus had been frequently applied. In this case, not the slightest constitutional derangement occurred; the eruption was purely a local affection, such as might be expected to arise from the continued application of any acrid material to a delicate and tender surface.

I cannot allow these cases to pass without a few observations. The inference from them would seem to be almost irresistible. A question, however, presents itself, which deserves the most serious consideration, and which should be answered with the care, caution, and circumspection which the importance of the subject demands. Why have so many physicians of distinguished talents and high professional reputation lost their confidence in the preventive virtues of the vaccine disease? My sphere of observation has been too limited, and my opportunities of investigation have been too few, to enable me to point out the causes which have led to this, I conceive unfortunate errors; several prominent ones, however, have presented themselves to my notice, well calculated to beget this state of things, and which I will proceed to point out.

The first and most important is the loose and careless manner in which vaccination has been conducted, and the subsequent treatment attended to. In most cases the virus is inserted in the arm, and the incision examined about the third or fourth day. If marks of inflam-

mation appear, the operator is satisfied, and the case receives no further attention. Very frequently the case is never seen after the virus is inserted, and the report of parents, guardians, or masters entirely relied on. In very many instances, the process is conducted by ignorant and incompetent individuals, who are totally unacquainted with the influence which the disease ought to exert on the constitution. Generally, I believe almost universally, no preparatory course is adopted to bring the system into a proper condition for the reception of the disease; no inquiry made as to the existence of any constitutional irritation which might in any way interfere with the specific action of the poison, and no attention paid to diet or exposure. In this state of things, it is not at all surprising that very many entire failures occur, and that individuals thus situated, should still be subject to genuine small-pox. Can a preëxisting irritation, produced either by disease or by the injudicious or excessive use of stimulating, indigestible, and innutritious diet, so interrupt the specific action of the kine-pox, as that it shall only modify, without destroying the disposition to the small-pox? This idea had a powerful advocate in the justly celebrated ADAMS, and I find that many late writers are yielding to it. If subsequent investigations should prove this idea to be correct, it will not be difficult to account for the frequent occurrence of modified small-pox, or varioloid, which I consider to be the same. Two of the cases I have detailed, certainly strengthen this view.

Another cause to which this error may be traced, is the frequent failure from the use of the vitiated virus. At the present day, the crust is generally employed in vaccination. Little care is taken to watch the progress of the vesicle. It is often ruptured, particularly in children, in the early stages of formation; inflammation then supervenes, and the virus is either totally lost or becomes incorporated with pus. It not unfrequently happens that the first crust is lost, and a scab subsequently forms, composed chiefly of pus, perhaps with a portion of coagulable lymph. There is little doubt but that this matter, introduced into the arm, would produce a pustular sore, and the inflammation might so deeply implicate the adjacent parts as to bring the system under sympathetic fever, still further calculated to deceive the uninformed. So long as vaccination is conducted by incompetent individuals not attached to the profession, and even by physicians who have not carefully studied the true character of the vaccine vesicle, and the influence which the disease exerts on the constitution, this state of things may be expected frequently to obtain, and will, I much fear, ultimately produce a wide-spread and fatal mischief.

Our ignorance of the specific action of this class of contagion poi-

sons the parts of the system which they invade, and the subsequent condition of these parts which render them insusceptible to morbid impressions from the same poison, is a further cause well calculated to beget doubt and uncertainty. Whether future investigations will remove any of the obscurity which now involve these points, it is idle even to conjecture.

The facts connected with vaccination in the Prussian army, are of great moment, and clearly exhibit the careless and loose manner in which vaccination had been previously conducted. In the two regiments which were revaccinated at Urfurt, in 1831, more than a third received the genuine disease; and in the following year the proportion was nearly half. It is worthy of particular notice that those divisions of the army which were revaccinated entirely escaped the small-pox, which was then prevailing as an epidemic, whilst those which were not taken through this process suffered severely from it.*

It is to be hoped that the members of the profession on this side of the Atlantic, will engage actively in this extensive field of inquiry, and exert themselves to clear away the doubt and perplexity which have usurped the place of confidence.

Fredericksburg, Va. Oct. 1834.

ART. IX. *Case of a Child with Imperforated Anus, and Malformation of the Intestine.* By JOHN H. STEEL, M. D. of Saratoga Springs, New York. [With a Wood-cut.]

ON the 13th of April, 1833, Mrs. C. a strong, healthy woman, was delivered of her tenth child, a fine, fat boy, who weighed between eight and nine pounds. He was dressed, and placed in bed with his mother, and nothing unusual was observed about him until the succeeding day, when he became restless and exceedingly fretful, and although he was nursed freely, his attention to the breast was frequently interrupted by fretful starts, accompanied at times by piercing shrieks and noisy crying. His diapers were observed to be frequently wet, and when removed were found to contain portions of feculent matter, of a natural appearance, and in about the usual quantity; his restlessness, however, continued to increase, and his crying became more constant and alarming.

On the second or third day after birth, it was discovered by the nurse that the usual aperture for the evacuation of the contents of the bowels was entirely wanting, and that the feculent matter which had

* See this Journal for August, 1834, p. 474-5, et. seq.; also, Art. Pathology, in the Periscope of the present number.—EDITOR.

appeared was voided through the urethra along with the urine. It was at this period that I first became acquainted with the case.

On removing the diaper, about a spoonful of feces and urine, of the consistence of thick gruel was voided at once, apparently with some effort, from the extremity of the urethra; the glans penis was considerably inflamed, and the child cried as if in great agony. Several other and stronger efforts were evidently made, when smaller portions of feces of the same appearance and consistence as the first were excluded, and the little sufferer then became more quiet.

The parts behind the scrotum were perfectly natural in every respect, except the want of an anus, of which there was not the slightest vestige, the spot where it should have been was smooth, and of a uniform colour with the adjacent parts, the sphincter muscle was evidently wanting, and there was nothing to indicate an accumulation of feces in the vicinity.

The examination resulted in the conviction that the intestine did not extend to the perineum, but probably terminated in the bladder or some of its appendages; under this view of the case any attempt to form an artificial anus would have been useless if not absolutely injurious.* The parents, therefore, were instructed to keep the parts clean, to use a little sweet oil about the glans penis, and by all means to keep the bowels loose should any tendency to constipation occur.

For the first three or four weeks the child continued fretful, and evidently to decline in vigour and growth; but from that period to a short time before its decease it suffered apparently but little, nor did its growth or strength seem to be at all impeded. The only peculiarity observable was the appearance of two large front teeth in the upper maxillæ, which at the age of seven months were as large and full grown as those of an adult; they, however, in the course of two or three months became loose and finally dropped out. In the latter part of the month of March ensuing its birth, its bowels became obstinately obstructed, the scrotum enlarged, and became extremely tender, and on the 30th of same month its sufferings were terminated in death.

On removing the integuments from around the body of the penis, which were considerably swollen, two *apple seeds* of a large size, which had passed through the intestines, together with a portion of the capsule or hull which surrounds the seed in the core of the fruit, were found lodged in the urethra about three-fourths of an inch from its

* Under the head of Surgery, in the Periscope of the present number, will be found a similar case, successfully treated by an operation, by M. Roux, of Brignolles.—EDITOR.

termination; they were so situated as to completely obstruct the passage, and a small opening had been formed immediately behind them in the urethra, through which some of the contents of the bladder had been infused into the cellular tissue, and extended to the scrotum. Inflammation and consequent gangrene was the result, and to this may undoubtedly be imputed the immediate cause of the child's death.

The contents of the abdomen appeared perfectly natural, excepting that portion of the intestinal canal termed the *colon sinistrum* or descending colon, which was found to be entirely destitute of the *sigmoid flexure*; the gut passed along the left lumbar, and through the iliac regions in nearly a straight line to the neck of the bladder, into which, after making an abrupt but imperfect curve, and being suddenly contracted in its dimensions, it was inserted just behind the base of the *prostate gland*. The aperture which united the gut and



bladder of urine into one common receptacle for their respective contents, was of sufficient capacity to admit a large sized goose-quill; through this aperture the urine found a ready egress into the intestine, where becoming united with the contents of that receptacle it was forced back to the bladder, and finally excluded through the urethra. About half a pint of urine and feces of

the consistency of that which was usually voided, was found to occupy the cavity of these two organs, and was readily excluded by means of a slight pressure on the parts. The space between the perineum and the termination of the intestine was occupied by a soft fatty substance, but there was not the slightest vestige of a gut.

I have endeavoured to give a more perfect idea of this singular malformation by the above figure, which represents the respective parts of one-half the natural size when simply inflated.

ART. X. *Accidental Occlusion of the Vagina, forming an obstacle to Delivery.* By C. HOILLEMIN, D. M. P. of Aux Cayes, Hayti
(Communicated in a letter to the Editor.)

MADAME — de —, when twenty-five years of age, had an exceedingly difficult labour, lasting three days; during which she had no other assistance than that of an inexperienced midwife. The external parts of generation, as well as the vagina, were attacked with violent inflammation, which was followed by an almost complete closure of the vagina, only a small opening remaining, scarcely sufficient to allow of the passage of a goose quill. She long suffered from incontinence of urine, and much difficulty in walking.

About June, 1830, Mad. —, then twenty-seven years of age, first consulted me. She was at that time suffering with nausea, loss of appetite, progressive increase of the abdomen, swelling of the breasts, &c. I immediately recognised all the symptoms of pregnancy at the third or fourth month, and informed Mad. — of it, who replied that it was impossible for her to be pregnant, since she could not cohabit with her husband, because her parts were closed, "*ses parties sont fermée*," (this was her expression.) The husband, who was present, confirmed all that his wife had said. Nevertheless, I assured her, that she was undoubtedly pregnant, and I did my best to tranquillize her great uneasiness, for she incessantly repeated that it was impossible for her to give birth to her infant.

The 30th of December of the same year, Mad. — sent for me at midnight. Labour pains had just come on. On examination I found that the vagina was closed by a firm membrane, extending across it, and which was thickest laterally. Near the meatus urinarius, a kind of fleshy band originated, which was lost in the partition. In the centre of this last there was a round opening, scarcely large enough to admit a quill, and the margin of which was thick.

I proposed to Mad. — to divide the membrane closing the vagina, to which she consented. After the uterine contractions had continued for six hours, I took advantage of the moment when the membrane was pressed forward and downwards by the membranes, and the head of the child to divide the margin of the opening, and then inserting the index finger of my left hand between the head of the infant and the partition, with my right hand, I passed the blade of a straight probe pointed bistoury upon the finger which served as a conductor, and cut the membrane from within outwards, on the left side, to the

extent of an inch, and then waited the effect of the renewal of the uterine contractions. After an hour, during which these were strong and frequent, the opening not enlarging, and the membranous partition being constantly pressed down, I made another incision from within outwards on the right side, so that these two incisions formed a triangular flap, the base of which was towards the sacrum. The umbilical cord immediately protruded; the waters, which were discharged, were black, and exhaled a strong and disagreeable odour. Mad. — became covered with a cold sweat; had repeated faintings; her pulse was almost imperceptible, and the uterine contractions were infrequent. Suspecting that the child was dead, from there being no pulsation in the umbilical cord, and having great fears for the mother, I hastened to terminate the labour by delivering with the forceps. The child appeared lifeless; its surface was livid, indicating cerebral congestion. After dividing the cord, I allowed three or four ounces of blood to flow; I employed dry frictions over the cardiac region, &c. and was not a little surprised to see the infant revive, as well as the mother, both of whom are at present in the enjoyment of perfect health.

Precautions were taken to preserve separate the parts which had been divided, and to prevent their reünion; the opening of the vagina was thus reëstablished in its natural state. The triangular flap resulting from the two incisions gradually diminished, and at the end of two years no trace of it remained, and Mad. — could cohabit with her husband without experiencing any inconvenience.

This case appears to me to be interesting in a double point of view, both as respects the delivery and conception. I submit it to the profession, believing it to be not unworthy of their observation.

Aux Cayes, (Hayti,) October 29th, 1834.

REVIEWS.

ART. XI. *Researches on the Pathology and Treatment of some of the most Important Diseases of Women.* By ROBERT LEE, M. D., F. R. S.; Physician-Accoucheur to the British Lying-in Hospital, and the Saint Mary-Le-Bone Infirmary; Lecturer on Midwifery in the School of Webb street. London, 1833, pp. 220, 8vo.

OWING to accidental circumstances we have been prevented from noticing the work before us at an earlier period. Although the author had politely forwarded us a copy several months ago, it was not placed in our hands sufficiently early for notice, even in our last number. Fortunately the subjects are of evergreen freshness; all those of a pathological and practical character are as interesting at this time as they ever were; and some of the anatomical and physiological topics have been already referred to in the pages of this journal;—we allude more especially to those that relate to the connexion of the placenta and foetal membranes with the uterus—one of the most important questions, connected with the intricate subject of foetal existence, the production of uterine hæmorrhage in the pregnant and parturient state, and the process instituted by nature for its suppression.

The work of Dr. Lee is divided into two parts—part first embracing puerperal fever and crural phlebitis; and part second uterine hæmorrhage.

The pathology of puerperal fever appears to be now pretty well settled. In this country we have fortunately had but little experience of the alarmingly fatal epidemics that have spread their devastating influence over different sections of Great Britain; and consequently the opinions formed by the American practitioner must be mainly derived from the histories communicated by the observers of other countries. The data, furnished by them, are, however, sufficient to enable satisfactory inferences to be deduced, and these show in the most satisfactory manner, that the disease to which the term has been mainly restricted, is an inflammatory condition of the peritoneum generally, and occasionally of the uterine organs, accompanied frequently by symptoms of a marked typhoid character, especially if the mischief be not arrested at the commencement by an appropriate system of medication.

Although we ourselves have met with no instance, in this country,
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of this malignant epidemic variety of fever or inflammation, we have had lamentable experience of it at different times in Great Britain. Imbued with the doctrines strenuously inculcated by Dr. JAMES HAMILTON, the distinguished Professor of Midwifery in the University of Edinburgh, we commenced the management of the first cases that fell under our care, as if they were a malignant typhoid fever peculiar to the child-bed state; but experience and reflection, with the unequivocal evidences afforded by *post mortem* examination, soon compelled us to reject this view, and to regard the disease as essentially inflammatory—the character of the inflammation, and the accompanying general symptoms being modified by epidemic causes, of the precise nature of which, as of epidemic influences in general, we must probably ever remain ignorant. In every case, which we had an opportunity of examining, the peritoneum exhibited signs of inflammation; and in all, the effusion of serous fluid, mixed with albuminous flakes, was considerable. Such, too, is the testimony afforded by most of the writers on puerperal fever.

Although, however, in all the cases that fell under our observation, the existence of peritoneal inflammation was manifested by the symptoms in those that recovered, and was unequivocally shown in the fatal cases by the appearances on dissection, it would appear that peritonitis is not an invariable concomitant, and that lesions of the uterine organs may be apparent on dissection, which may or may not involve the peritoneum: one of the principal objects, indeed, of the essay before us—on the “Pathology of Puerperal fever”—is to demonstrate, that the disease is seated in the uterus, or its appendages, and that its character differs according to the precise part of the apparatus that may be mainly affected.

“From the 1st of January, 1827, to the 1st of October, 1832, one hundred and seventy-two cases of well-marked puerperal fever came under my immediate observation in private practice, and in the British Lying-in Hospital and other public institutions in the western districts of London. The symptoms and progress of these cases were watched with close attention; the effects of the different remedies employed were observed, and where death took place, I carefully examined the alterations of structure in the uterine and other organs.

“Of fifty-six cases which proved fatal, the bodies of forty-five were examined, and in all were found some morbid changes, decidedly the effect of inflammation, either in the peritoneal coat of the uterus, or uterine appendages,—in the muscular tissue, in the veins,—or in the absorbents of the uterus, accounting in a most satisfactory manner for the constitutional disturbance observed during life. The peritoneum and uterine appendages were found inflamed in thirty-two cases; in twenty-four, there was uterine phlebitis; in ten, there was inflammation and softening of the muscular tissue of the uterus; and in four, the absorbents were filled with pus. These observations are therefore subversive of the

general opinion now prevalent, that there is a specific, essential, or idiopathic fever, which attacks puerperal women, and which may arise independent of any local affection in the uterine organs, and even prove fatal without leaving any perceptible change in the organization of their different textures. As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical, and more consistent with the principles of nosological arrangement, to banish entirely from medical nomenclature the terms, puerperal and child-bed fever, and to substitute that of uterine inflammation, or inflammation of the uterus and its appendages in puerperal women. Puerperal peritonitis and peritoneal fever, are terms not less objectionable than puerperal fever, for in many fatal cases there is no proof whatever of the existence of any morbid affection of the peritoneum.

"All writers state, that in puerperal fever there is exquisite sensibility of the abdomen with pyrexia, and that these are the only characteristic symptoms of the disease. After the inflammatory symptoms of the uterine organs subside, those of collapse follow, as in the last stages of inflammation of the brain, lungs, liver, intestines, and other abdominal viscera: then the abdomen becomes distended and tympanitic, and after death, extensive alterations of structure are found in the uterus and its appendages; the other external and internal organs presenting no morbid appearance. Besides, there is nothing to be remarked in the condition of a puerperal woman, to render her more liable to attacks of typhus fever than other individuals; and lying-in women, as I had an opportunity of observing in the epidemic typhus, which prevailed in Edinburgh in the years 1816, and 1817, and also during the last six years in this metropolis, are rarely affected with typhus. It is to the uterus, left in a condition, after delivery, in which no other organ can be similarly placed, and rendering it peculiarly liable to attacks of inflammation, that we are to look for an explanation of all the phenomena of puerperal fever.

"Until a recent period, the pathological anatomy of the uterine organs in puerperal women had not received that attention which its importance demanded. In the histories of the different epidemic fevers which have prevailed amongst lying-in women since the middle of the seventeenth century, the symptoms and morbid appearances, though imperfectly described, nevertheless strongly confirm the accuracy of the conclusion, that the whole phenomena, local and general, of these fevers, are to be referred to inflammation of the uterine organs: and that the symptoms vary according as the superficial or the deeper-seated structures of the uterus are affected."

Symptoms and dissections, then, convince us of the truth of the deductions of most pathologists of modern times, that the puerperal fever is essentially an inflammation, produced, as we have already remarked, by epidemic influences acting on individuals, whose organs are, at the time, predisposed to the malady. A recent and distinguished writer, however—now no more—*has been bold enough to affirm, that symptoms and dissections cannot settle the question

* An account of some of the most Important Diseases Peculiar to Women. By Robert Gooch, p. 36. Lond. 1831.

respecting the pathology of puerperal fever. He asserts, that the effects of remedies on a disease, if accurately observed, form the most important part of the history.

"They are like chemical tests, frequently detecting important differences in objects, which previously appeared exactly similar." "Symptoms and dissections," he adds, "can never do more than suggest probabilities about the nature of a disease, and the effects of a remedy on it. A trial of the remedies themselves is the only conclusive proof."

Dr. Lee has very properly animadverted on this singular sentiment,—the fallacy of which must strike every one. How, indeed, is it possible, that we could ever detect the pathological condition of an organ, if we were to be guided by the effects of remedies only; and if the symptoms during life, and the appearances on dissection were to exhibit unequivocally, in any case, that inflammation of an internal organ had existed, the pathological truth would have to remain, whatever might be the effect upon it of remedies, whose action must often fail of their object, in consequence of numerous counter-acting and deranging influences, which cannot always be correctly appreciated. The view was doubtless embraced by Dr. Gooch, in consequence of his having met with many cases—as every obstetrical practitioner must have done—of diffused pain over the abdomen, accompanied by a certain amount of general febrile irritation, which were relieved by opiates, and warm fomentations, without recourse being had to blood-letting; but, as the author before us has correctly remarked, such cases, if not essentially different in their nature, are at least widely different in degree of severity, from cases of either sporadic or epidemic puerperal fever.

The very fact of their yielding to Dover's powder and to warm cataplasms strikingly exhibits this discrepancy, if not in nature, in intensity between them and the sporadic or epidemic varieties. The treatment itself is well adapted for lesser grades of inflammatory action, but we can affirm, from experience, that it would be totally inadequate for the removal of the severer cases, and especially of such as exhibit the degree of malignancy, which is so characteristic of the epidemic form of the disease. Under this very management, indeed, Dr. Gooch lost, in the years 1828 and 1829, seven women out of twenty-eight affected with the "peritoneal fever," as he terms the disease; that is, one in four. We have no doubt, that in many such cases as Dr. Gooch has described, great benefit would be derived from a full opiate, accompanied by the use of warm fomentations; and we can add our testimony to his,—that when blood-letting has been carried in cases of peritoneal inflammation, as far as

the practitioner has dared, and whilst sufficient pain and tenderness have been left to make him anxious about the patient, a full opiate, and a warm poultice over the abdomen have completely removed the symptoms. This is, in truth, but following the sedative plan. In all varieties of acute inflammation of the peritoneum, a combination of bleeding with opiates is the most philosophical course—both in theory and in practice—that could be devised; and with the nervous and the delicate, in whom great nervous erethism is apt to be induced by loss of blood, which might add to the hyperæmia, the opiate is a most valuable agent. By a copious bleeding, followed by a full, sedative dose of opium, the vascular and nervous erethism is allayed, and if this course be pursued at an early period of the disease,—and in all peritoneal affections, especially when occurring in the puerperal state, the remedies ought to be applied early,—the efforts of the practitioner will generally be crowned with success. It was the opinion of ARMSTRONG, calmly and firmly expressed, that if he were labouring under peritonitis, and were told that he must depend upon the lancet singly, or on opium singly, for his safety, he thought he should prefer trusting to the latter. This is, perhaps, going too far; but it exhibits the deliberate conviction of an accurate and practised observer, and ought not to be overlooked. The best plan in these cases is to combine the agents—the blood-letting and the sedative drug—but at the same time to bear in mind, that there may be cases in which we might hesitate with regard to the employment of the former, whilst we could suggest no well-founded reason for dispensing with the latter.

There is one circumstance, by the way, referred to by Gooch, which strongly impressed us, as well as the profession generally in Great Britain, when puerperal fever was rife there. Several instances occurred of its prevalence amongst the patients of particular practitioners, whilst others, who were equally engaged in obstetrical practice, had few or none. This necessarily led to the opinion, that the disease is capable of being conveyed by the practitioner from one puerperal female to another, and the greatest precautions were accordingly taken to prevent such communication, although frequently they were fruitless. We have known almost all the females, delivered by one accoucheur in different parts of London, attacked with the malignant epidemic, whilst his partner had not a single case in his practice. Dr. Gooch refers to an instance of a similar kind, which is sufficiently remarkable. A general practitioner, (surgeon apothecary,) in large midwifery practice, lost so many patients from puerperal fever, that he determined to deliver no more for some time, and that his partner

should attend in his place. This plan was pursued for one month, during which not a case of the disease occurred in their practice. The elder practitioner then returned to his practice, but the very first patient he attended was attacked with the disease, and died. A physician, who met him in consultation soon afterwards, about a case of a different kind, and who knew nothing of his misfortune, asked him whether puerperal fever was at all prevalent in his neighbourhood, on which he burst into tears, and related the above circumstances. Dr. Gooch adds, that among the cases which he saw in consultation in the winter of 1824, four occurred in one month in the practice of one medical man, and all of them terminated fatally.

Similar occurrences have been so numerous as to convey the idea pretty generally, that the malignant puerperal fever is highly communicable; and if they be regarded as sufficient proof, it must be more so than any other disease with which we are acquainted, more even than small-pox. The difficulties, however, that surround the belief, must render every one, who is duly sceptical, cautious in embracing it, whilst at the same time it is his duty, during periods of epidemic sickness of the kind, to adopt every judicious precaution against its possible extension through his agency. If the evidence of communicability be not esteemed convincing, it must at least be admitted that the coincidences have been sufficiently singular. Dr. Lee is in favour of its being communicable by contagion, and he gives some striking cases analogous to those we have adduced; but the French practitioners, Tonellé, Dugès, and others, who witnessed the most fatal epidemic that has ever occurred in Paris, discard the idea of contagion as applicable to it. In that epidemic, which prevailed in 1829, numerous opportunities occurred for examining the morbid appearances. In one hundred and thirty-two, out of two hundred and twenty-two fatal cases, puriform fluid was found in the veins and absorbents of the uterus; and in one hundred and ninety-seven, some important alteration of structure was observable in the uterine organs.

Dr. Lee considers, that the principal varieties of inflammation of the uterus and its appendages, occurring in puerperal women, are the following:—

1. Inflammation of the peritoneal covering of the uterus, and of the peritoneal sac.
2. Inflammation of the uterine appendages, viz.: the ovaria, Fallopian tubes, and broad ligaments.

3. Inflammation of the mucous, and muscular or proper tissue of the uterus; and—

4. Inflammation and suppuration of the absorbent vessels and veins of the uterine organs.

To the consideration of each of these varieties he allots a separate section. They may all, he affirms, take place independently of each other, though they are most frequently met with in combination. Peritonitis seldom occurs without some inflammation of the uterine appendages; but he has found both these textures severely affected, whilst the muscular coat of the uterus and the veins were wholly exempt from disease. The venous and muscular tissues of the uterus are also liable to attacks of severe inflammation, without any corresponding affection of the peritoneal covering;—

“Though it most frequently happens, that inflammation, when excited, either in the veins or muscular coat of the uterus, involves also the peritoneum.”

One tissue, rather than another, is affected according to the particular epidemic; at times, the peritoneum being generally involved, whilst, at others, the deeper seated tissues are almost invariably implicated; but that there can be no essential difference between these varieties of uterine inflammation was proved by the circumstance—

“That in the course of a few days, in the same ward of the British Lying-in Hospital, and in patients who were placed in contiguous beds during the prevalence of the epidemic, when the disease appeared to be communicated from person to person, peritoneal inflammation, uterine phlebitis, and the other varieties enumerated, all occurred in their most characteristic form. In some patients, the local and constitutional symptoms indicated the presence of acute inflammation of the serous covering of the uterus, and in those cases where active depletion was employed at the commencement of the attack, most frequently a speedy recovery took place. In other examples, at the onset of the disease, there was comparatively little pain in the region of the uterus, the pulse was from the beginning rapid and feeble, and the symptoms were such as to contra-indicate the use of blood-letting and cathartics. Such cases usually terminated fatally in defiance of local bleeding and the exhibition of mercury and opium, and other remedies; and on examination after death, either the veins, the muscular structure, or the appendages of the uterus, were found to be the textures most frequently inflamed.” p. 20.

The symptoms, which point out the particular tissues that are affected, are not in all cases unequivocal. Great tenderness of the hypogastrium increased by pressure, with pyrexia, are the characteristic symptoms of inflammation of the peritoneal covering of the uterus; but as inflammation of the uterine appendages is generally combined with peritonitis, to a greater or less degree, it is often difficult to

establish a diagnosis between these varieties of uterine inflammation; nor can this be important. As analogous tissues are affected, the pathology cannot differ materially. Dr. Lee asserts, that the pain is generally less acute than in peritonitis, and is principally seated in one or other of the iliac fossæ, extending from them to the loins, anus, and thighs, the pain on pressure being chiefly felt in the lateral parts of the hypogastrium. The constitutional symptoms, at the commencement of the attack, do not, he adds, materially differ from those which mark the accession of peritonitis, being often accompanied with strong febrile action. This we should expect, but we cannot as readily understand why the febrile action, in such cases, should speedily subside, and be "suddenly followed by prostration of strength and other changes, which characterize inflammation of the muscular and mucous tissues of the uterus." We suspect that the circumstance of the appendages of the uterus being implicated in the inflammation had but little agency in the production of the typhoid symptoms, which were probably referable to other causes of an intrinsic or extrinsic character.

The diagnosis of inflammation and softening of the proper or muscular tissue of the uterus, particularly where it is complicated with peritonitis or phlebitis, which is frequently the case, is described as extremely difficult. Dr. Lee mentions, as the most common symptoms of the disease, pain of the epigastrium, diminution or suppression of the lochial discharge, and rigors, with rapid, feeble pulse, followed by great signs of prostration. But he remarks—

"The prostration of strength, and the alteration of the features, which often exist from the commencement, the feebleness and the rapidity of the pulse, the irregular fœtid state of the lochia, are not such constant symptoms as to be considered pathognomonic, and they may arise from other causes. The most attentive consideration of the phenomena will only lead to a probability as to the nature of the affection; and sometimes its existence cannot be determined during life. In all the cases of this affection which I have observed, the resources of nature and of art have proved equally unavailing in arresting its fatal course. The active inflammatory symptoms, which have usually manifested themselves at the commencement of the attack, have passed speedily away, whatever plan of treatment has been adopted, and have been rapidly succeeded by symptoms of exhaustion. Where the disease has not been complicated with inflammation of the other tissues of the uterus, the symptoms have not been such as to indicate the necessity of venesection; and, in one case, where a considerable quantity of blood was abstracted from the system, death soon followed. In other cases, where an opposite plan of treatment was had recourse to, the fatal termination seemed to be less speedy, though equally certain."

Now, without meaning to deny that the *ramollissement* or softening of the uterus, in these cases, was the product of inflammation,

it is certain that simple mollescence of the parietes of the uterus may be present without always exhibiting, during life, such evidences of its existence. We have seen two fatal cases of rupture of the uterus occurring in females apparently in perfect health prior to parturition, in both of which the tissue of the uterus was so soft as to tear with the greatest facility, a condition which was doubtless the cause of the fatal rupture of the organ during the parturient efforts.

Of the inflammation and suppuration of the absorbent vessels of the uterus, the author admits, that—

“The local symptoms are often so obscure as to escape detection during life, whilst the constitutional symptoms, which sometimes resemble, in a striking manner, the effects produced by specific poisons, are so virulent as not to yield to any remedies, however early and vigorously applied.” p. 48.

The symptoms of uterine phlebitis, or of inflammation of the veins of the uterus are equally equivocal. But on this point we will permit Dr. Lee to speak for himself.

“It is, perhaps, impossible to determine for the most part, the precise period of its invasion, from the total absence of local pain, and of other symptoms; but it is probable that it most frequently begins soon after delivery, and remains stationary for a time around the orifices of the uterine veins, as phlebitis has been observed to do, where it occurs after venesection. Of this, however, we can have no certain proof, nor can it be admitted to be a general occurrence, from the rapidity with which the inflammation has been found to attack the uterine, spermatic and renal veins. In one case, the disease proved fatal on the evening of the fifth day after labour, and on dissection all these veins were found disorganized.

“Where the veins alone are inflamed, the peritoneal and muscular tissues remaining unaffected, there is often either no pain, or only a dull pain, with a sense of weight in the region of the uterus, and no other local symptom by which the disease can be recognised. The uterus, too, may return to its usual reduced volume, or nearly so, and it is only on the accession of the constitutional symptoms, viz. rigors, prostration of strength, rapid, feeble pulse, low wandering delirium, attacks of vomiting and diarrhoea, with brown parched tongue, and ultimately rapid and destructive inflammation of the eyes, and purulent deposits in the substance of the lungs, that the existence of this insidious and dangerous affection can be determined. If the substance of the uterus be affected, this organ remains, above the brim of the pelvis, large, hard and painful on pressure, as in puerperal peritonitis.

“With regard to the lochial discharge, it has sometimes been observed to be foetid and puriform, and at other times in a perfectly natural state. Where the lochia have been offensive, in every case it appeared to be a consequence, and not a cause of the disease of the uterus.” p. 55.

As regards the causes of uterine inflammation in puerperal women, and especially when it occurs in the malignant form, which we have been considering, the author offers us nothing new. He refers it “to

some peculiar noxious constitution of the atmosphere, or to the communication of contagious miasmata," or, in other words, leaves the matter as he found it, without wasting time and space on any futile hypothesis.

Lastly, as respects the treatment of uterine inflammation in puerperal women, Dr. Lee makes a marked difference, dependent upon his idea of the parts affected, or rather, between his first variety—puerperal peritonitis—and the rest. When inflammation of the peritoneal coat of the uterus is fully developed, and when the affection occurs in a severe sporadic or epidemic form, no soothing plan of treatment, like that before mentioned, as having been recommended in certain cases by Dr. Gooch, will prove sufficient to arrest its course; and unless blood-letting, general and local, and other antiphlogistic remedies be early and vigorously employed, the disease will, in most cases, proceed to a fatal termination.

"In the treatment of puerperal fever," he judiciously observes, "the following are the principal objects we should keep in view:—First, to subdue the local inflammation of the uterine organs; and secondly, to moderate the constitutional disturbance, which the local inflammation invariably produces. In fulfilling these indications, no exclusive plan of treatment should be adopted; but we ought, according to the peculiarities of each case and stage of the disease, to employ blood-letting, mercury, opium, cathartics, diaphoretics, blisters, and whatever other means we can discover to possess any influence of controlling the disease." p. 102.

Where the existence of peritonitis is indicated by the usual signs, Dr. Lee inculcates the adoption of the antiphlogistic treatment, universally advised in such cases; but, as regards the treatment of the other varieties of uterine inflammation, the symptoms, he affirms, are usually, from the commencement, such as contra-indicate the use of general blood-letting. Where the local pain is severe, leeches, he thinks, seem to be the most appropriate remedies; but so far as his own observation extends, he is of opinion that we are not at present in possession of any remedial means, which effectually controul those varieties of inflammation of the deeper seated structures of the uterus, which he has described. The French physicians, however, are of a different opinion, and are satisfied that mercury, employed in the worst cases, even so far as to excite salivation, is a powerful remedy. It would seem to us to be important, in such cases, to induce a new action in the system as speedily as possible, and no agent could do this so effectively as mercury. Should it fail, the case must be regarded as sufficiently hopeless. Dr. Lee affirms, that in several cases of uterine phlebitis he has employed the remedy to a great extent, and speedily brought the system under its influence, yet the progress

of the symptoms was not arrested, and the patients died, as others had done, to whom mercury had not been administered. (p. 112.) In the latter stages of inflammation of the deep-seated structures of the uterus, the great depression of the powers of the system renders the liberal administration of stimulants absolutely necessary, and in several cases of phlebitis the life of the patient appeared to the author to be preserved by them.

The fifth chapter of Dr. Lee's work is on the disease commonly, but absurdly enough, termed *phlegmasia dolens*, but which he proposes to term *crural phlebitis*. It is somewhat singular, that although writer after writer on the diseases of women had described this affection, no approximation towards a knowledge of its true pathology was made until within the last twelve or thirteen years. The irrational views, at one time, and indeed until within recent periods, embraced, regarding its nature, are sufficiently shown by the names *œdema lacteum*, *dépôts laiteux*, and *phlegmasia lactea*, once appropriated to it. In the year 1823, M. BOUILLAUD, of Paris, and Dr. D. DAVIS, now Professor of Midwifery in the University of London, first drew the attention of the profession to the fact of obliteration of the veins of the lower extremity in these cases; and the latter gentleman proved, by dissection, that such obliteration was dependent upon phlebitis. Dr. Davis is of opinion, that the inflammation commences in the common iliac, and that it is produced by the pressure of the gravid uterus. Dr. Lee, however, considers that the inflammation is first excited in the uterine branches of the hypogastric veins, and that it continues to spread along these vessels until it reaches the common iliac, the external iliac, and the femoral veins; and, by the morbid changes induced in them, gives rise to all the subsequent phenomena. Twenty-two examples of crural phlebitis have fallen under his immediate observation, and in all, the great venous trunks, which return the blood from the lower extremities, were inflamed and obstructed. Eight such cases, with the appearances on dissection, are detailed in the work before us. After delivery, the apertures of the uterine veins are liable, Dr. Lee thinks, to have phlebitis induced in them; and he conceives the extension of the inflammation from thence to the veins of the lower extremities to be more comprehensible than the mode of production invoked by Dr. Davis.

Dr. Lee likewise details some cases of crural phlebitis in women not in the puerperal state, in whom it appeared to have arisen from suppressed menstruation, malignant ulceration of the os and cervix uteri, as well as from other organic affections of the uterine apparatus. The disease also occurs in the male, commencing either in the hæmor-

rhoidal, vesical, or some other branch of the internal iliac veins, in consequence of inflammation or organic changes of structure in one or more of the pelvic viscera, but it is most frequently excited in the superficial veins of the leg, whence the mischief extends upwards, so as to involve the great venous trunks of the thigh and pelvis. The whole of the chapter on this subject is extremely interesting to the pathologist, and comprises a collection of valuable facts and deductions.

The following is the author's treatment of crural phlebitis in puerperal women. The great general principles of management are the same as we have adopted in similar cases; but we do not think there is sufficient evidence for the belief, that the small doses of calomel, singly, or combined with antimonial powder, have had any effect except of correcting the disordered state of the bowels. They have not appeared to us "to subdue the local inflammation, and the great constitutional disturbance usually present." Nor, after a perusal of the author's cases, are we disposed to attach much weight to this part of the treatment. It may, at times, be advisable to modify the state of the alimentary canal; but the general principles of management, detailed in the following extract, had doubtless the main, if not the sole agency in removing the symptoms and effects of the phlebitis.

"Puzos recommended repeated and copious venesection for the treatment of this disease; but in all the cases which I have witnessed there has been so much feebleness of pulse, and prostration of strength, that I have not ventured to draw blood from the arm. There are cases, however, occasionally met with, where the symptoms are immediately relieved by a general bleeding. An example of severe crural phlebitis after delivery recently occurred in the practice of a medical friend, where the abstraction of twenty ounces of blood seemed at once to break the force of the attack. In a great proportion of cases venesection is not required, and we are to trust for the relief of the inflammation to the repeated application of leeches above and below Poupart's ligament in the course of the crural veins. From two to three dozen of leeches should be applied immediately after the commencement of the disease, and the bleeding should be encouraged by warm fomentations, or by a bread-and-water poultice to the part. Should the relief of the local pain not be complete, it is requisite soon to reapply the leeches in numbers proportioned to the severity of the attack, and to repeat them a third or even fourth time at no very distant intervals, should the disease not yield.

"Some patients experience greatest relief from the use of warm cataplasms to the limb, others derive most advantage from the application of cold, or a tepid evaporating lotion.

"The bowels are often much disordered in this disease, but the employment of strong acrid cathartics is always injurious. Repeated small doses of calomel and antimonial powder should be given with some mild purgative, not only

with the view of correcting the disordered state of the bowels, but to subdue the local inflammation and the great constitutional disturbance usually present. It is of importance also to administer saline and diaphoretic medicines, and to procure rest and relief from pain by anodynes, until the acute symptoms pass away; the diet should be the same as that usually allowed to patients who are labouring under inflammatory and febrile diseases. I have seen no advantage derived from the use of digitalis in any stage, either of uterine or crural phlebitis.

“When the acute inflammatory symptoms have passed away, the limb remains in a weak and œdematous state, and great uneasiness is often experienced from congestion of the blood in the veins. Until the collateral branches which are to carry back the blood to the heart become enlarged, it is impossible by any means we possess to afford complete relief. Much benefit may, however, be derived in this stage of the complaint from the occasional application of a few leeches to different parts of the limb, and by preserving it in the horizontal position. I have seen mischief produced by having recourse too early to remedies intended to promote the absorption of the fluid effused into the cellular membrane. Blisters, frictions, stimulant embrocations, and bandages to the limb, are only useful when the inflammation of the veins has wholly subsided, and other vessels have become so much enlarged as to carry on the circulation of the blood in the extremity without interruption.

“I have not perceived any sensible benefit accrue from the use of mercurial ointment and iodine in crural phlebitis, and I consider the local abstraction of blood at the commencement of the attack to constitute by far the most important part of the treatment.” p. 177.

The second portion of Dr. Lee's work is on uterine hæmorrhage, a topic which has doubtless been suggested by the views he embraces regarding the precise connexion between the placenta and the uterus, of which we have treated in a late number of this journal.* The old idea, universally entertained, was,—that the vessels of the mother pass directly to the placenta, and pour their blood into the maternal part of that organ. Under this view of the subject, hæmorrhage would be induced by a rupture of the vessels passing from the uterus to the placenta. The observations of Dr. Lee and others—detailed in the work before us—have satisfied them, that there is no direct communication between the uterine vessels and the placenta; but that these vessels *coast* along within the uterine parietes in a direction parallel to the placenta; and that they have portions scooped out of their sides, which portions or apertures are closed, either directly or indirectly, by the placenta. Under this view there can, of course, be no distinct maternal and foetal portions of the placenta. The whole must be foetal; and hæmorrhage must arise from the detachment of the placenta from the apertures in the uterine vessels. Whatever, therefore,

* See *American Journal of the Medical Sciences*, for August, 1834, p. 406.

induces contraction of the uterus, occasions the reapplication of the placenta, or of the body of the child to the vessels, whence the hæmorrhage is proceeding, and arrests it. These remarks necessarily apply only to hæmorrhage occurring prior to, or during delivery, and then only to cases in which the placenta is situated elsewhere than over the os uteri.

In uterine hæmorrhage, following the extrusion of the ovum, the hæmorrhage is of course arrested by causing the uterus to contract upon itself, and thus to obliterate, as it were, the maternal vessels.

The following directions for the treatment of uterine hæmorrhage, where the placenta is over the os uteri, embody the most important points of procedure.

“It may be laid down as a rule admitting of no exception, that where hæmorrhage occurs from the placenta being situated over the os uteri, artificial delivery must be performed. In some cases, where a small portion only of the placenta lies over the os uteri, it is possible for the orifices, exposed by the detachment, to be closed by coagula, and the patient go to the full time, and be delivered safely without the assistance of art. Such a result is, however, extremely uncertain and hazardous, and ought never to alter the general rule of practice, which has now been stated. As the gradual development of the cervix takes place, separation of the placenta from the uterus to a still greater extent usually follows, and the hæmorrhage is renewed until delivery is either accomplished by art, or the patient expires from the loss of blood. In one case only of flooding from the placenta being situated over the os uteri, which has come under my observation, has the woman escaped with her life without artificial delivery. When called to this patient I found the placenta in the vagina completely detached; on removing it, a child of eight months followed, and immediately after a torrent of blood which had very nearly proved fatal.

“Without waiting for the pains of labour, or the dilatation of the os uteri, the hand should be passed into the vagina, as in the ordinary operation of turning, and carried forward steadily through the os uteri in a conical form between the uterus and placenta, at the part where their separation had previously taken place. The membranes should then be ruptured, and an inferior extremity of the child brought down into the vagina, and the infant and placenta be slowly extracted.

“In no case, however, should the hand be forcibly introduced while the os uteri is rigid and undilatable. Until the os uteri becomes soft and dilatable, and this does not take place in some cases before repeated attacks of hæmorrhage have been experienced, the flow of blood must be checked by the recumbent posture, cold applications to the hypogastrium and pubis, and the introduction of a large piece of soft sponge within the vagina. The plug ought never to be employed where the os uteri is soft and yielding. It is a most valuable remedy in rigid undilatable states of the os uteri, to command the flow of blood, until the operation of turning can be safely performed; but it is wholly inadmissible after the os uteri has become sufficiently dilatable to admit of delivery. If the os uteri therefore is in a condition to permit the hand to be safely

introduced, the uterus should without delay be emptied of its contents, and I am fully convinced, from many cases of this description which have fallen under my observation, that the life of the patient is more frequently endangered, by delivery being performed late than early." p. 208.

In his management of uterine hæmorrhage, where the placenta has adhered to the upper part of the uterus, or in cases of what have been termed "accidental" hæmorrhage, in contra-distinction to the "unavoidable," or that which is an inseparable concomitant of the placenta being situated over the os uteri, we observe nothing new. He recommends, provided the ordinary means employed in hæmorrhage fail, the induction of labour, if it have not already commenced, by discharging the liquor amnii; and if it have, the discharge of the fluid will allow the uterus to contract on the placenta and fœtus, and thus the hæmorrhage may be arrested: but if the flooding should continue, and the pains become more and more feeble, delivery must be accomplished by the forceps, by embryotomy or turning, according to the peculiarities of the case. We are satisfied, however, that this course can rarely be necessary, but should the emergency arise, no other method is left for the practitioner than that recommended by Dr. Lee.

In uterine hæmorrhage after the expulsion of the placenta, the author places his greatest reliance on the exercise of constant and powerful pressure over the fundus uteri, and the application of cold to the external parts,—a large napkin being plunged into a pitcher of cold water, and suddenly dashed against the external organs.

There is, by the way, some apparent, if not real inconsistency in the opinions of Dr. Lee, with respect to the employment of the tampon or plug for arresting uterine hæmorrhage. Speaking of hæmorrhage from the gravid uterus, owing to detachment of the placenta, which has adhered to the upper part of the uterus, he observes:—

"Having witnessed several fatal cases of uterine hæmorrhage, where a small portion only of the extravasated blood escaped externally, I am persuaded that it is unsafe in this variety of affection, to fill the vagina with sponge or other extraneous matters." p. 211.

Yet, in the next section on hæmorrhage after the expulsion of the placenta, he seems to forget this caution, or to consider it applicable to that variety; for he says—

"I have *seldom* found it necessary to introduce a plug of any kind into the vagina in these cases; but where there has been a draining of blood from the uterus, after the practice now described has been adopted, a large piece of soft sponge has been passed up, and I have had satisfactory proofs, both of its safety and efficacy in promoting the coagulation of the blood in the uterus."

Surely internal hæmorrhage would be as likely to occur to a fatal extent in the latter as in the former case under the use of this mechanical agent.

We have noticed, at some length, the contents of Dr. Lee's work, which, in consequence of its embracing only a few subjects, notwithstanding that these are of a most interesting character, is not likely to be reprinted in this country. The author is evidently well-informed in the department of medicine, to which he has more especially devoted himself. He appears, too, to be well grounded in the general principles of his profession, and from the zeal and ability exhibited in the essays which he has already published, we look forward with the most favourable anticipations for further useful contributions to the science from his pen.

R. D.

ART. XII. *On the Influence of Atmosphere and Locality; Change of Air and Climate; Seasons; Food; Clothing; Bathing; Exercise; Sleep; Corporeal and Intellectual pursuits, &c. &c. on Human Health, constituting Elements of Hygiene.* By ROBLEY DUNGLISON, M. D., Professor of Materia Medica, Therapeutics, Hygiene, and Medical Jurisprudence in the University of Maryland, &c. &c. Philadelphia, Carey, Lea & Blanchard, 1835, pp. 514.

THE want of a precise and practical compendium of the principles of hygiene, has long been felt by the profession in this country, especially by the younger members of it, who, from the deficiency of elementary treatises, and still more, of a proper course of instruction on this important subject, are in a great measure obliged to rest content with the general views of the operations of external agents on the human organization, which they acquire whilst pursuing the general routine of their medical studies.

"It is true," says Dr. Combe, "that almost every medical man, sooner or later, works out this knowledge for himself; but, in general, he attains it later than he ought to do, and seldom so completely as he would have done had it been made a part of his elementary education, to which he saw others attach importance."

The deficiency, above alluded to, is in a great measure supplied by the work now before us, and we trust that this publication will prove the forerunner to a better order of things, and may demonstrate to those who have the guidance of our schools of medicine, the necessity that exists for a more extended and liberal course of instruction than is now given.

"In this country and Great Britain," says the author in his preface, "hygiene has not usually formed a distinct branch of university education, although in the different practical chairs it may have been noticed in a detached manner; but in continental Europe it has been formed into a separate subject."

In the United States it has lately been introduced into the University of Maryland, as part of the duties assigned to the professor of *Materia Medica*. This is one step gained, but it is not enough. The present state of our science demands that hygiene and medical jurisprudence should be fully taught; and we hope that many years will not elapse before they are made the province of a distinct professorship in every medical school in the Union. We know it has been asserted that all that is requisite to be known on these subjects can be incorporated with the other branches of instruction; an assertion worse than idle, and scarcely requiring an attempt at refutation. Let any one of the graduates of our medical schools be asked what he has learned of the principles of these important branches of medical learning, and, if he is candid, the answer must be, little or nothing. If this should not convince the incredulous, let him attend a judicial examination on subjects involving any point of hygiene or medical jurisprudence, and if he does not become satisfied of the almost total ignorance of a generality of the medical witnesses respecting it, we will at once admit that we have acted unadvisedly in the course we have pursued since the establishment of this Journal, in urging upon the profession a strict attention to these subjects.

Dr. Dunglison states that the want of a text book to accompany his lectures induced the present publication to supply the deficiency, and at the same time to "enable the general reader to understand the nature of the actions of various influences on human health, and assist him in adopting such means as may tend to its preservation." In this we think he has succeeded in a very satisfactory manner, and although we may not agree with the learned author in many of his conclusions, or ascribe the same value to some of the facts he has adduced in support of them, we can truly say that his work adds another to the many claims he has on the gratitude of the profession, and can recommend it to the public with the utmost confidence as one of the best treatises on the subject, we possess.

Before entering on the consideration of the topics that more especially appertain to hygiene, the author makes some brief observations on certain points of general physiology, an ignorance of which, as he justly observes, would prevent the student from fully comprehending the subject; as these, however, are more calculated to impart the requisite information to the general than to the professional

reader, and have been more fully developed in his work on "Human Physiology," which has been noticed in a former volume of this Journal, we shall pass them over without comment, except his definition of hygiene, which we think is somewhat involved. Thus, after stating that a harmonious performance of the functions constitutes health, whilst an aberration of one or more of them produces, or is in fact itself a state of disease, he goes on to say—

"The object of hygiene is to inquire into the circumstances which may give rise to this aberration, or, in other words, into the influence of physical and moral agents on healthy man; and thence to deduce the best means for preserving health, and for developing all the healthful energy of which the functions are capable."

Now without wishing to be captious, we would object to the two clauses of this definition as not conveying the same ideas. The first would seem to exclude from the objects of hygiene all those influences which act in a beneficial manner on the organization, and restricts it to such only as may cause disease; whilst the latter takes the true and more extended view of it as including the operation of all these agents. The best definition of this term is that given by FODERE, "Hygiene is the art of preserving health and preventing disease."

From this it will be perceived that hygiene includes the whole of what the ancients classed under the name of the six non-naturals; namely, *air, aliment, exercise, the passions and affections of the mind, and repletion and evacuation*; and these general divisions will be found, even in the present condition of civilized man, to include the greater portion of those influences which are capable of acting in a beneficial or in an injurious manner on the health or well being of an individual. Dr. Dunglison, however, makes a somewhat different division of the subject, and in as many chapters considers the effects of atmosphere and locality, food, clothing, bathing, exercise, sleep, and corporeal and mental occupations. These we shall now proceed to examine, though it will be impossible for us to enter into a regular review or analysis of all the facts and opinions adduced.

The first chapter, as we have already stated, is devoted to the consideration of the important subjects of atmosphere and locality, and Dr. Dunglison has treated on these at some length, and, in the happiest manner. He first inquires into the properties of the air we breathe, and the influence of its various and varying conditions on the health of man. After mentioning that the general chemical composition of the air is the same in all places and at all heights, he adverts to the effects of its augmented or diminished density, and clearly shows, that however prejudicial a sudden increase

or diminution of atmospheric pressure may be, that where the change takes place gradually, no permanently injurious effects are produced.

“Even the small period that elapses in the ascent of a balloon to this giddy elevation, (21,735 ft. French,) is sufficient for the purpose, and death did not result where the elevation attained in this manner was even 6,095 feet greater than that indicated by Cassini as the limit of animal existence. The highest town of any extent on the earth, is Potosi in Bolivia, celebrated for the mines in its vicinity. It is 13,265 feet above the level of the Pacific Ocean. Two hundred years ago it is said to have contained 160,000 inhabitants, but the number is now not greater than 12,000. Perhaps the highest inhabited spot on this hemisphere is the farm of Antisana in Quito, the elevation of which is 13,400 feet. Yet the human family are capable of subsisting at these lofty elevations with the same facility as amidst the Arctic snows, when once habituated to them; inconvenience being felt by new settlers alone, and even these by the gradual ascent have their different organs accommodated to the new external relations.”

We are, however, very deficient in information as regards the disposition to disease, or the reverse, produced by a permanent residence in elevated regions, though from the present state of our knowledge on the subject it would appear, where the density of the air is widely different from that at the level of the sea, that its effects on the system are not very marked, and that many of the phenomena attributed to this cause are in fact owing to other atmospherical conditions, of which temperature is perhaps the most efficient.

One of the great characteristics of man, is his capability of existing in the most opposite climates, and his faculty of migrating with impunity from the icy regions of the north to the burning plains of the tropics, provided the transition be not too rapid. This capability of change of temperature appears to be owing to a corresponding modification that takes place in the important functions of respiration and calorification, both of which increase in energy when an individual is subjected to the influence of a climate colder than that to which he had been accustomed; whilst the reverse occurs in an opposite change of circumstances.

But although man can thus exist in all climates, an elevated temperature is less congenial to him than one which is more moderate; though we think Dr. Dunglison has admitted too much in the following statement.

“Independently of all other considerations, the elevated temperature of the torrid regions of the globe appears to be positively detrimental to animal health. The constant evaporation by cutaneous and pulmonary transpiration maintains the absorbents of the intestines in a state of irregular crethism, and

hence disposed to assume a morbid condition under favourable existing influences."

Now, it is well known that, however detrimental the temperature of tropical climates may be to human health, that it is in the highest degree favourable to the existence of many of the other races of animals. But this is not all—it does not appear that mere temperature, unaided by other causes, is unfavourable to longevity and exemption to disease in man. The most striking instances of long life on record, are those given in the Bible, as occurring among natives of Syria and the adjacent countries; and even at the present day, if the accounts of BUCKINGHAM and other travellers in that part of the world are to be relied upon, the Arabs and Moors of the desert present more individuals who have attained a great age, than can be found in an equal population in any portion of the globe; and yet they are exposed to an almost vertical sun.

As we before said, a moderately depressed temperature is, generally speaking, the best fitted to human existence, and to the full development of his faculties, and accordingly we find that it is in temperate climates that man has attained the highest degree of civilization. In countries where the thermometer ranges but little above the freezing point during most of the year, man, although capable of existing, and even of attaining to an advanced age, suffers the benumbing influence of the climate, both in his animal and mental functions. Where he is not sufficiently protected against its depressing effects—

"The nervous system ceases to be affected by impressions from without, and an irresistible desire for sleep comes on, which, if indulged in, becomes the sleep of death, and is perhaps one of the easiest modes in which life departs from the body."

Dr. Dunglison cites the remark of LARREY, that the inhabitants of southern Europe suffered less during the retreat of the French from Moscow, than those from northern countries, and thinks it may be explained by the greater moral energy of the first. Though we admit that this had doubtless some influence, we are inclined to attribute this phenomenon to the same causes that produce a sensation of warmth on the surface after coming out of a cold bath; namely, the reaction produced in the system, by the impression of a stimulus to which it was not habituated.

The author next considers the influences exerted by different hygrometric states of the atmosphere, and discusses them in an able and satisfactory manner. To a certain degree, dry air is more favourable to a due performance of the animal functions than moist,

but when combined with too high a thermometrical temperature, it becomes injurious, producing too great an evaporation from the lungs. On this account, the dry heat produced by the use of anthracite as fuel, when carried to the excess, which is too frequently the case, cannot fail to increase the number of pulmonary diseases. A moist and heated atmosphere is, perhaps, the most prejudicial to human health; as besides its relaxing and debilitating effects, it is much more liable to become charged with miasmata of all kinds than a dry one; but as we shall notice the subject of miasmata in another place, we will, at present, pass it over, to quote some observations of the author on hardening children, as it is called, which contain advice that cannot be too often enforced.

“Some persons endeavour, as they say, to fortify their children from earliest infancy, so that they may resist them, (vicissitudes of temperature,) or be less affected by them, than others with whom the same plan has not been pursued. It need scarcely be said, that all undue clothing and residence in heated apartments without change, are injurious, but at the same time it is not every infant that will bear the plans which are employed by some parents to harden them; such as bathing every morning in cold water, exposure to the air at all temperatures, light clothing, even when the weather is cold, &c. Many an infant has fallen a victim to this dogged persistence in error. Two-fifths, at least of mankind die of acute diseases, and a large majority of these are induced by exposure to cold. If, however, the infant is habituated to daily tepid bathing and ablution for a time, and the temperature of the fluid be gradually depressed, until cold water alone is used, and if it be comfortably clothed with flannel next the skin, and be sent into the fresh air, whenever the weather is serene, even if the temperature should be somewhat depressed, it may be accustomed to exposure as far as is prudent, and better adapted for bearing with impunity the vicissitudes of the weather.”

In observing on the influence of light on the animal economy, Dr. Dunglison is not as full as might have been expected, and has overlooked some of the most striking and best authenticated cases where the continued deprivation of this necessary stimulus not only induced disease, but also was the cause of the production of monstrosities. As regards electricity, we have sufficient data to demonstrate in the fullest manner that the human system is frequently affected in a very sensible manner by electrical changes, and it is not improbable that the appearance and existence of epidemics are in some measure connected with or dependent upon these changes. But we have no positive knowledge of this fact, nor can we arrive at the truth until a long succession of observations on the subject have been registered, both during the existence and in the absence of epidemic constitutions of the atmosphere.

In the next section Dr. Dunglison goes at some length into the dis-

cussion of atmospheric vitiations and their consequences, which we shall pass over without attempting to analyze, as, although it is exceedingly interesting and contains the sum of our knowledge on these important subjects, no new views or facts are presented that require our notice. The following remark, however, deserves attention, from its bearing on medical police, and requires to be generally known.

"The air is apt, also, to be loaded with emanations from animal and vegetable substances in a state of decomposition, and there are many trades which are carried on in putridity, but we shall endeavour to show that the admixture of such emanations with the air does not affect public salubrity to such an extent as might be imagined, although the nervous and the delicate, before they become accustomed to the offensive odours, may be more or less disagreeably impressed. The same may be said of butcheries, dissecting rooms, and cemeteries."

To this may be added the fact, that during the prevalence of epidemics, persons engaged in these trades suffer but seldom from attacks of the disease.

With regard to the nature of malaria or miasmata, Dr. Dunglison says, that in the state of ignorance that envelopes us, we cannot fix positively, or even with any thing like probability, upon any cause or combination of causes that certainly give rise to them. This is but too true, for, however striking may be the effects of such emanations, their nature has defied the art of the most skillful analyst. In our Periscope will be found an abstract of a memoir recently communicated to the French Academy of Sciences by M. BONSSINGAULT, who thinks that he has detected the deleterious principle, namely, hydrogen; but his experiments require much confirmation before we can admit this as the efficient agent in the production of the numerous diseases which can be traced to a miasmatic origin.

In the succeeding section the author goes on to say, that although in most cases we are enabled from experience to form some judgment of the comparative prevalence or absence of miasmata, that this is by no means universally the fact, as for instance, in some of the most malarious districts of Italy, the soil, &c. afford no physical signs to indicate its presence, whilst the wretched appearance of the inhabitants give the strongest evidence of its prevalence and deleterious powers. In fact, notwithstanding all the investigations that have been made, and all the theories that have been framed, our knowledge of the true nature and causes of miasmata remains as yet extremely imperfect.

We shall not follow Dr. Dunglison in his remarks on the mortality of countries, as we have not the space at present, to insert the comparative tables, without which the subject could not be fairly un-

derstood. We cannot avoid mentioning, however, that the erroneous statements of European writers as regards the medical statistics of the United States, and more especially of the southern portions of it, are fully and satisfactorily refuted. He concludes his observations on the subject with the following just remark.

“We may conclude, then, that a great and ever-acting cause of the difference of salubrity of countries is seated in the locality; that is, in the soil that forms them, and in the air that circulates above them; and although we may be able to modify the condition of the former, and improve the circulation of the latter, we can rarely succeed in annihilating either of those influences.”

With respect to the influence of change of air and travelling in the maintenance or restoration of health, Dr. Dunglison has adopted the views of JOHNSON and CLARK, and adduces some additional proofs in support of the great advantages to be derived from the change of the physical circumstances of the atmosphere in which we are habitually placed, especially in those morbid states of the system which appear to be kept up in some measure by habit, and perhaps still more in what are termed the nervous affections.

The effect of the seasons of the year upon human health is in a great measure dependent on their different temperatures, and as a mutation in this respect, is almost indispensable to the continuance of a perfect state, so those countries which have a marked spring, summer, autumn and winter, are equally distinguished by a greater development in the corporeal and mental faculties of their inhabitants. In fact, there is no greater fallacy than that of considering a country possessing an unvarying temperature as necessarily a healthy one, and that atmospheric vicissitudes are the main causes of disease. That a serene and ever temperate climate is favourable to the amelioration or cure of certain maladies there can be no doubt, but it will universally be found that the healthiest portions of the globe are those in which the heats of summer are succeeded by the frosts of winter. This leads us to notice another common error, which has been fully refuted by our author—that what is termed unseasonable weather, as the occurrence of unusual warmth in the winter season, must necessarily be unhealthy. There is an old proverb, that “a green yule maketh a fat kirkyard,” which is even at the present day received as an indisputable axiom by the many, notwithstanding the evidences which are constantly offered, that mild winters are in general far more healthy than severe ones.

We have remarked, that although a constant equability of temperature was not as favourable to the full development of the animal and mental functions, as a due succession of seasons; that this

equability was of great importance in the cure or amelioration of certain diseases; this is particularly the case with consumptive affections; hence, it has been a matter of anxious inquiry among practitioners, how they could best shield their patients from the effects of the depressed temperature of the winter, and the vicissitudes of spring and autumn. It has been satisfactorily shown, that a close confinement to his room, in which an elevated and equable temperature is maintained, is attended with almost as many disadvantages as benefits to a patient labouring under phthisis; for the vitiation of the atmosphere, which necessarily takes place from the want of due ventilation, counterbalances, in a great measure, the good effects otherwise to be derived from this plan of treatment. Another, and very common plan, has been to send these patients to a milder climate during the seasons alluded to; this measure has proved eminently beneficial in some cases, but unhappily in a vast majority of instances, the unfortunate sufferer merely leaves his home, and the affectionate and ever-watchful attentions of his family and friends, to find an untimely grave on a distant shore. At the same time, however, injudicious and cruel it may be to advise individuals whose lungs are ulcerated, or who present other symptoms of an advanced stage of phthisis, to seek for relief by a change of climate, there is not the shadow of a doubt, that in the earlier periods of this disease, and in those pulmonary affections which may lead to it, a removal to a more genial climate is beneficial.

The great difficulty is to know where this is to be found, as it has been satisfactorily shown, that the climate of Italy, which, at one time was supposed to possess the necessary requisites of mildness and equability, is, on the contrary, exceedingly variable, and wholly unfit for the valetudinarian, and the same may be said of the south of France. Of late years the Island of Madeira has been highly spoken of by many European practitioners; but it does not appear to possess any advantages as a winter residence, over many places on this continent, though, it must be confessed, that most of these are unsafe during the summer months. Dr. Dunghlison has discussed this subject at some length, without giving any decided opinion in favour of any particular spot; but he seems inclined to prefer St. Augustine, and adduces some strong testimony in corroboration of its fitness for a residence for invalids during the cold months.

In chapter second, Dr. Dunghlison proceeds to the consideration of the important subject of food, or the *materia alimentaria*, respecting which more treatises have been written, and more absurd theories framed, than on any other topic connected with the science of medi-

cine, contagion not excepted. We are, therefore, glad to meet with a plain, sensible and practical series of observations like the present, which may be equally recommended to the perusal of general and medical readers.

We shall not attempt to discuss whether man should live on vegetable or animal food alone; it is sufficient for us, that in the present state of society, and in this part of the world, that he is omnivorous, and the best argument in favour of this practice is, that it is perfectly consonant to health; the fact appears to be, that nature having fitted the human race to subsist indifferently on animal or vegetable food, or both, the circumstances of climate or locality under which nations or tribes have been placed, have in all cases led to the adoption of those articles of diet which were most readily attainable. In an advanced stage of civilization, and more especially in temperate climates, man derives his food, (under which we include condiments,) from all the kingdoms of nature. Earth, air and ocean, have been ransacked, and there is scarcely a living creature that has not at different times and in different nations been resorted to as an article of diet; and what is turned from with disgust by the inhabitants of one part of the world, is eagerly sought for as the greatest delicacy by the natives of another.

When speaking of the nutritive and digestible properties of food, the author observes that they are by means synonymous and convertible terms.

“Although one ounce of fat meat is estimated to afford nutriment equal to four ounces of lean, it requires far more labour on the part of the digestive organs, and undergoes no change whatever in the stomach, whilst it remains much longer in that organ. This is a singular physiological fact. It has been generally conceived that the pylorus acts, as its name imports, the part of a janitor at the lower orifice of the stomach, and that it does not permit the food to pass into the small intestine, until it has undergone the physical process of chymification, that is, solution in the gastric secretions. Yet castor oil proceeds onwards with rapid progress, whilst a blander oil is detained longer than any other kind of aliment, and vegetable substances pass on unchanged, or but little changed, as has been remarked in cases of artificial anus, much sooner than animal substances that are more easy of assimilation.”

Broussais and others have attributed this to what they term an internal gastric sense, which exerts an elective agency, and detains the digestible, whilst it suffers the indigestible parts of the food to pass on. With all deference to this learned physiologist, we think that this admits of easy explanation, without the creation of an internal sense. When indigestible food is introduced into the stomach, it acts as an irritant, and as a natural consequence of the increased action thus induced, the offending substance is in most cases speedily expelled

through the pylorus into the small intestines, where it may continue to exercise the same morbid influence, and thus cause purgation, by which it is finally ejected from the body.

The process of digestion being mainly one of solution, it must be evident that food should be presented to the stomach in a form that requires the least exertion of power on the part of that viscus. The author of "The art of Invigorating and Prolonging Life" justly, but quaintly observes—

"Our food must be done either by our cook or by our stomach, before digestion can take place, and surely no man in his senses would willingly be so wanting in consideration to that organ as to give it the needless trouble of cooking it, and digesting it also, and thus waste its valuable energies in work which a spit or stew-pan can do better."

The generality of alimentary articles become more digestible by the various culinary operations to which they are subjected; but this is not always the case, thus oysters in a raw state appear to call on the digestive powers in a much less degree than when they are stewed, roasted, &c. and cabbage disagrees with more persons in a boiled, than in a crude state.

We shall not attempt to follow Dr. Dunglison in his observations on each particular article of food, as we could not do justice to them without extending our remarks beyond all due limits; added to which, we are extremely sceptical as regards the criteria by which the digestibility or indigestibility of particular articles have been judged. In most cases the test has been whether they suited the state of the gastric organs of the writer. Now, idiosyncrasy, habit, and the particular circumstances of the case exercise so strong an influence, that it is almost impossible to decide, *à priori*, what will agree or disagree with an individual, and it is the height of absurdity to proscribe any article of diet because it has been found injurious in a few cases.

"Perhaps," says our author, "the best opinion as regards the wholesomeness of an aliment, in the case of any particular individual, is comprised in the answer of the facetious Mandeville, who, when asked by the ladies of the court whether this or that article of diet was wholesome, demanded whether they liked it and it agreed with them; if so, it was wholesome."

To attempt to live by rule and measure with respect to our food, and to strive to establish a universal standard of the wholesomeness or unwholesomeness of the various articles composing it, would be as absurd as the practice of the philosophical tailors of Laputa, who, we are informed by Gulliver, though they manufactured clothes on abstract principles, never were so fortunate as to make them fit.

"It is impossible to indicate accurately the quantity of food proper for each

individual. Children, and those in the age of adolescence, when every thing is undergoing development, require more nourishment than the adult or the aged. Yet the latter, especially when far advanced in life, appear to demand a larger quantity of food than the former. The assimilative organs in them perform their functions but imperfectly and tardily, and a much smaller proportion of nutritive matter is separated; hence it is that more of the raw material is necessary."

Though we agree with Dr. Dunghlison in the first of these propositions, we are by no means disposed to admit that the aged should partake largely of food; for as the digestive function in them is also imperfect, an accumulation of the raw material, as the author terms it, cannot fail of being productive of gastric distress, and of calling into action those fatal disorders of the encephalon to which most individuals at an advanced period of life are peculiarly liable. A large proportion of the apoplexies and palsies of the old occur soon after the ingestion of a meal. The proper diet at this term of existence should be such as is at the same time nutritious and easy of digestion.

All writers agree that it is of importance that the number of meals and the times at which they are taken should be regular. By this means, as has been justly observed by Dr. DARWIN, the stomach is not only stimulated to requisite action by the food ingested, but also by periodical habit. This latter undoubtedly exercises no little sway, for it is well known that if a meal be not taken at the usual time, the feeling of hunger which existed is very apt to cease, until the return of the next period at which food is habitually taken.

"The number of meals must in a great measure be regulated by the age. Children eat more frequently than adults, with impunity, and even with advantage, but it is important that they should not take too much at a time; and in this way digestion may be readily accomplished, as the quantity of food may not exceed the powers."

This is sound doctrine, but it should not be abused; much mischief has been done to invalids and dyspeptics by constantly keeping their gastric organs in a state of excitement by the undue repetition of the times of their taking food, and the common adage that "the stomach is like a school boy, always at mischief unless it be employed," is like too many of its class, founded on error, and is the more dangerous, because it chimes in with the popular dread of debility.

We shall not stop to discuss the number of meals that should be taken in the day, as this must depend upon a variety of contingent circumstances, of which habit is the most influential; those usual in this country have become so firmly established by custom and convenience as to preclude the necessity of saying any thing on the subject. With regard to the evening repast, both theory and experience

concur in demonstrating that it should be light, and composed in a great measure of fluids, as the stomach having accomplished the heavier task imposed on it, that of digesting the mass of solid food taken in at dinner, requires the presence of bland and diluting fluids, to aid its restoration to a state of calm and quiescence.

As regards supper there ought to be but one opinion; that it is seldom necessary, and in most cases positively injurious.

"When the stomach is loaded, the circulation is interfered with, and the brain receives irregular impressions, which give occasion to painful and distressing dreams, nightmare, and, when in a higher degree, to somnambulism. Hence it is in civic life, where plethora is apt to be induced by continued full living, apoplexy so frequently follows a surfeit at supper."

At the same time, a *light* repast before retiring to rest is allowable or even requisite to dyspeptics, and almost every practitioner must have met with cases where, if food was not taken at this time, patients passed a restless and uneasy night, from a nervous irritation in their gastric organs.

The following observations deserve notice, and have been fully verified during the prevalence of the cholera in this city.

"Every sudden change in regimen is unwholesome. Food containing but little nutriment, and not markedly wholesome, may agree better when we are accustomed to its use, than that which is more wholesome. Whenever, therefore, epidemic sickness prevails, a change of regimen should be made gradually, for fear that the new circumstances under which the individual may be placed, may occasion so great a change in the economy as to render him more liable to an accession of disease."

We must, however, hasten to conclude our observations and extracts from this part of Dr. Dunghlison's work, although we are sensible we have given but a feeble idea of it, and have not, perhaps, done justice to him in giving so cursory a sketch of it. We are glad to find that he has not followed the example of most writers on dietetics, and enrolled himself under the banner of the "Snatchaways," who have done more harm by inducing their unfortunate patients to restrict themselves to the most simple and mawkish articles of food, than would have occurred if they had remained "*Epicuri de grege porci*."

Dr. Dunghlison next makes some very apt and judicious comments on a custom by far too prevalent in this country, the use of tobacco, which we are convinced has occasioned more derangement of the gastric organ than have ever arisen from excesses in eating and drinking.

"When tobacco is used," says he, "in any shape, to excess, it blunts the sensibility, not only of the organs with which it comes in contact, but of the

whole nervous system; or it induces so great a susceptibility to impressions, that existence becomes painful."

The worst and most offensive mode in which tobacco is used, is that of chewing, as whilst in this way it acts more directly and forcibly on the digestive organs, it is the most disgusting to others. The only defence that has been made of the employment of this poisonous herb, is that it is useful in preventing the impression of miasmata; but, as is observed by Dr. Dunglison, there does not appear to be much foundation for the belief. In fact, a custom must be a very bad one, when its votaries are never solicitous to gain new adherents; and we can fully credit the declaration of Dr. FRANKLIN, that he had never known a man who used tobacco who advised him to follow his example.

The third chapter is devoted to the consideration of clothing, and contains some very judicious remarks on the importance of a strict attention to adapting it to meet the rapid vicissitudes of temperature so frequent in this country. The great requisites of a dress are, to be so adapted to the body as not to obstruct the motions of the limbs or the more important functions of life, and to be formed of such materials as will preserve the skin at that degree of temperature that is most agreeable. It must be evident, that those articles which are bad conductors of caloric are the warmest when the external temperature is lower than that of the body, and, on the contrary, are the coolest when the atmospheric heat is greater than the usual temperature of man.

"Clothes, formed of hemp or linen, are good conductors of caloric, and therefore cool. They readily imbibe and part with humidity, and when wet they are better conductors of caloric than when dry. They are, therefore, not well adapted for cool climates and seasons. Cotton is a worse conductor of caloric, and absorbs and retains a portion of the perspiration. It is consequently a warmer clothing. Whilst wool is a very bad conductor of caloric, and never allows the matter of perspiration to escape to such an extent as to cause a powerful sensation of cold."

Hence the great advantage of wearing flannel next the skin in cold and temperate regions, as it forms one of the best protections against the impression of cold, and the sudden vicissitudes of temperature to which such countries are continually liable. But the properties of clothing do not depend on their texture only; their colour exercises no little influence. As white reflects the calorific rays, and black and the other dark colours absorb them, clothes of a light colour are best fitted not only to impede the transmission of heat from without in warm weather, but also to retain the natural temperature of

the body in an opposite state of the thermometer. There is another point connected with colour which should not be overlooked; namely, the greater aptitude the dark colours possess for absorbing and retaining odours; hence, observes Dr. STARK, "it would appear that physicians, by dressing in black, have unluckily chosen the colour of all others the most absorbent of odours and other exhalations, and of course most dangerous to themselves and patients." Our readers will find some interesting facts in corroboration of this opinion, which Dr. Dunglison has extracted from Dr. Stark's memoir, which we have not space to insert.

The form of some parts of the dress usually worn is often productive of injurious consequences; thus the general use of the stock has probably rendered affections of the head more frequent, and VAN MONS, in his treatise on the ophthalmia of the Dutch army, has shown that it arose in a great measure from the pressure exercised by this article of dress. In female dress, also, the corset, although when properly made and worn, it affords great support and comfort, has been productive of much injury. The late Dr. GODMAN has, however, so fully pointed out the evils attendant on an improper use of parts of female dress, that we cannot do better than to refer our readers to his excellent paper on the subject.

The following remarks of our author cannot be too often repeated.

"Wet clothes should not be suffered to dry slowly on the body, especially by exposure to a current of air, which gives occasion to rapid evaporation and consequent refrigeration. In all such cases, dry clothing should be substituted, and the skin well dried and rubbed, or if this is impracticable, the wet garments had better be dried on the body by artificial heat. If we are compelled to be exposed to a draught of air, especially when heated, as where the wind enters through a broken window, or through some crevice, the part with which the air comes in contact, should be carefully covered. We could not, *à priori*, suppose that any serious mischief could result from so trifling an exposure; but experience has sufficiently shown that such is frequently the case, and that there is greater danger where the capillary action of a small portion of the body is irregularly modified, than when the same morbid agent is directed over an extensive surface, or over the whole body. The invalid must be especially careful to suit the quantity and quality of his clothes to the temperature, and not quit his winter clothing too soon. It is impossible to indicate any fixed period of the year, when the change should be accomplished; but considerable caution is required on the part of every one, and especially of those that are liable to pulmonary, abdominal, or neuralgic affections."

In speaking of the effects of bathing, which forms the subject of Chapter IV. Dr. Dunglison observes, that the reaction which takes place on emerging from a cold bath, is not as great as has been supposed, and that persons have been misled with regard to it, from not

adverting to the fact, that all our sensations of heat and cold are merely relative. We cannot agree with him fully in this opinion; the excitement that follows the use of the cold bath is of too long continuance, and the sensations of warmth are too vivid to be merely a return to the state which existed previous to the chill occasioned by the water.

In making this observation, we are alluding to cases where the cold bath is used as it generally is, merely for a short period of time; where an individual remains in it beyond this, we readily admit that it acts rather as a sedative than a stimulant or tonic. With his advice as respects the use of all kinds of bathing, we heartily coincide, and earnestly recommend a careful perusal of this part of his work both to the medical and the general reader, being fully convinced that many evils have resulted from an abuse of this important hygienic agent.

In considering the subjects of exercise and sleep, which are next taken up, Dr. Dunghlison has exhibited his usual industry and perspicacity in the selection and arrangement of facts, and we regret that circumstances will not allow us to notice them in detail; but as we take for granted, that the work itself will, ere long, be in the hands of most of our readers, we shall content ourselves with the following extract, in refutation of a very common, and we have long been convinced, a very prejudicial error; namely, that the atmosphere of a bed room should not be modified by a fire.

“Why should the body be surrounded by a temperature nearly equal to its own, whilst the face is in contact with air, perhaps near the freezing point, and often loaded with humidity. There is certainly more wisdom in the opinion of Kit-chener, that a fire in the bed room is sometimes indispensable, and that during half the year, those who can afford it, would do wisely to have one.”

This is peculiarly adviseable in all cases of pulmonary or bronchial disease; how often do patients complain that although they scarcely cough during the day, that it comes on immediately on retiring to rest? The reason must be obvious. During the day, they breathe a warm atmosphere congenial to the irritated state of their lungs, which is suddenly exchanged for the cold, and perhaps humid air of their bed chamber. At the same time, the practice of some, of keeping the chamber at an elevated temperature, is equally objectionable; all that is required, is sufficient fire to moderate the great and sudden change above alluded to.

In the last chapter the author treats of corporeal and mental occupations, and points out the influence they exercise in the maintenance of health or the production of disease.

"This influence," he observes, "is caused by a few circumstances, and of these, the degree of exertion, of elevation and depression of temperature, of greater or less exposure to vicissitudes, the sedentary or other character of the calling, and the presence or absence of noxious exhalations, are the most prominent."

He also notices that the danger of even the most insalubrious avocations is not so extended as might be supposed, from the power which the living system possesses of becoming in some degree habituated to the most malign influences. It is a curious fact that many of those employments which are generally supposed to be the most unhealthy, are by no means so; thus workmen exposed by their trades to most noisome animal odours, do not appear to suffer, whilst a person unaccustomed to these emanations is overpowered.

Much has been said and written on the injurious consequences of literary employments, and that the mind in some cases wears out the body there can be no doubt, but this is less frequently the case than is imagined. The observations of Dr. Dunglison on this point are well deserving of attention, and clearly show that the diseases with which the literary are specially afflicted are identical with those which result from any sedentary employment. In fact, where due attention is paid to exercise, it has been proved that the severest intellectual employment, so far from shortening, in a great measure tends to prolong life.

We have no faith in the tables of comparative longevity in the different professions as proofs, on many accounts, as none of them are sufficiently extended, added to which so many circumstances require to be taken into view, that it is impossible to decide from them whether the effects of intellectual labour had any thing to do with the prolongation or abridgment of the existence of the examples cited.

Whilst on this subject, we cannot refrain from returning our warmest meed of approbation, for the feeling and dignified notice he has given of the intellectual endowments and labours of the late Dr. GODMAN; and it is peculiarly gratifying in coming from one so well calculated to appreciate them.

"The propriety, says he, of introducing into the list the name of Godman, who, in spite of the disadvantages of fortune, and a brief existence, spent in sickness and in suffering, succeeded in elevating himself to a high rank among physicians and naturalists, no one will deny."

And again—

"If we inquire into the nature and number of the contributions made to science by many of those on his list, (Madden,) we find that but few of them

had distinguished themselves, at the same age, to any thing like the extent of Bichat, Beclard, Georget, or Godman; and if we suppose, for a moment, what might have been produced by these individuals, if they had been permitted to live as long as Corvisart, Hoffman, or Tissot, it cannot but be believed that their title to distinction would have been yet more signal."

The work concludes with a supplementary chapter, containing a brief exposition of the author's views on malaria, in the form of a deposition, and tables of temperature, and of the comparative digestibility of different alimentary substances, forming a useful appendix to the work.

We are conscious that the importance of the subject matter of this work deserved a more extended notice, but we trust we have said enough to induce our readers to judge of it for themselves, and we rest assured that few will be disappointed.

R. E. G.

BIBLIOGRAPHICAL NOTICES.

- XIII. *The Anatomy and Physiology of the Liver.* By FRANCIS KEIRNAN, Esq. R. C. Surgeons, &c. From the Philosophical Transactions. London, 1833, 4to. pp. 60, plates iv.

The author of this memoir exhibits, in his labours, a fair research into the opinions and observations of preceding anatomists who have written on the same subject, and has, himself, entered into some very elaborate and minute investigations, for which he deserves much credit. He commences by defining with accuracy what is meant by the terms *lobules* and *acini*, and by stating their shape, relative positions, and vascular connexions. The latter is accomplished in a successful manner without, however, introducing ideas of a new kind, further than a new terminology, and a more detailed description than usual.

“The left lateral ligament may be considered as a rudimental liver, in which this organ presents itself to our examination in its simplest form. From that edge of the liver connected to the ligament, numerous ducts emerge, which ramify between the two layers of peritoneum of which the ligament is composed. These ducts were discovered by Ferrein, but this anatomist did not ascertain their termination. ‘A l’égard des vaisseaux biliaires, M. Ferrein en a observés de nouveaux, dont les uns reviennent du ligament gauche du foye, et qu’il a vûs quelquefois repandus sur la face inférieure du diaphragme.’* These ducts, the smallest of which are very tortuous in their course, divide, subdivide, and anastomose with each other. They are sometimes exceedingly numerous, two or three of them in such cases being of considerable size; some of them, as Ferrein says, frequently extend to the diaphragm and ramify on its inferior surface. They sometimes extend only half-way up the ligament, where they divide into branches, which, forming arches, return and descend towards the liver, anastomosing, or being continuous, with other ducts issuing from it. The spaces between the larger, or excreting ducts, are occupied by plexuses of minute, or secreting ducts. I have injected the ducts on the inferior surface of the diaphragm, but have not succeeded in injecting them to their termination; we may, however, conclude that, like those just described, they form arches, the branches returning towards the ligament, and being continuous with others ascending from it. Branches of the portal and hepatic veins, with arteries and absorbents, also ramify in the ligament, which, including between its layers a plexus of secreting and excreting ducts, with blood-vessels ramifying on their parietes, admirably displays the structure of the liver.† Ferrein speaks of other ducts; ‘d’autres reviennent de cette portion des parois de la veine cave, qui paroît hors de l’échancrure sigmoïde du foye quand on le regarde par derrière, d’autres enfin reviennent des membranes de la vésicule du fiel.’” The inferior cava usually occupies a fissure at the back part of the liver; this fissure is frequently converted into a canal by a portion of the liver, extending from the lobulus Spigelii to the right lobe; frequently, also, the fissure is converted into a canal by a band, apparently of a ligamentous texture, varying in width in different subjects. The band is, like the left lateral ligament, a transparent portion of the liver, containing ducts and blood-vessels. In a preparation in my

* Mémoires de l’Académie Royale des Sciences, Histoire, 1733.

† A beautiful preparation is made by drying the ligaments on glass, after having injected the ducts with size or mercury.

possession, in which the ducts in this band are injected, a few injected ducts are seen issuing from the right lobe, and ramifying on the coats of the cava above the band."

He considers the elementary branches of the hepatic veins to commence in the centre of the acini, which he denominates lobules. The portal veins form a plexus around each lobule, and penetrate from its circumference to the centre, in converging lines with lateral communications forming a plexus in the body of the lobular plexus. The portal veins there terminate in the hepatic vein in the centre of the lobule. He says that no branches of the hepatic veins are found in any other part of the liver; occupying the centre alone of each lobule, their only office is to convey the blood from the lobular venous plexus, and not from the arteries. The plexuses may be always injected with facility from the portal or hepatic veins, and the injection will pass freely from one vein into the other without extravasation, if the liver has been previously deprived of all its blood by the ligature of the portal vein and hepatic artery in a living animal. We have, ourselves, frequently proved this connexion by passing size from one into the other, especially from the vena portarum; but when the injecting matter is charged with the usual colouring ingredients, their particles soon stop up all the avenues of communication. The fifth plate has a figure representing this junction very satisfactorily, as well as the lobular plexus between the meshes of which arise the extremities of the pori biliarii, and which he designates as the biliary plexus.

"The venous plexus ramifies on the biliary plexus: the blood circulating through it is composed of the portal blood, and certainly of that portion of the arterial blood which, having nourished the excreting ducts, and supplied them with mucus, and having circulated through the vasa vasorum of all the vessels, becomes venous, and is received into the branches of the portal vein, by which, with the portal blood, it is conveyed to the plexus; and from this mixed blood the bile is secreted.

"The vessels of the plexus ramify on, or as Müllersays, between the secreting ducts; they are not continuous with the ducts, as was imagined by Ruysch. On this subject, Müller observes: 'Itaque autopsia docet, vascula sanguifera tenuissima cum ductibus biliferis cæcis nullum commercium inire.*.....Neque verò quisquam commercium inter fines ductuum biliferorum et vascula sanguifera unquam observavit. Quod jam Hallerus rectè monuit. Nemo vidit vasculum sanguiferum in finem ductûs biliferi usquam desinens.'"+

Mr. Keirnan considers the lobules to be sparingly supplied with arterial blood, and says that they cannot be coloured by an arterial injection, even in the young subject. Having tried several experiments to effect this, he comes to the conclusion—

"That the secreting portion of the liver, like the excreting portion of the kidney, is supplied with arterial blood for nutrition only. As all the branches of the artery of which we can ascertain the termination end in branches of the portal vein, it is probable that the lobular arteries terminate in the lobular venous plexuses formed by that vein, and not in the intralobular branches of the hepatic veins, which cannot be injected from the artery, the blood of these arteries, after having nourished the lobules, become venous, and thus contributing to the secretion of the bile."

* Op. cit. p. 82.

† Ibid. p. 83.

He denies that the lobules consist of two different structures, according to the declaration of Ferrein, and says that their structure is the same throughout, one part of a lobule not being more vascular than another, and that when the distinction into red and yellow is manifested, it arises from congestion.

"My attention was first directed to the anatomy of the liver by the study of the admirable works of M. Andral. In the first organs I examined, I found the small branches of the hepatic veins ramifying exclusively in the red, and those of the portal vein in the yellow substance. I concluded that the liver was composed of two venous trees, a portal and an hepatic tree, the former having a cortex of yellow, the latter of red substance; and with M. Bouillaud I thought it probable that the red substance was the organ of the function imagined by Bichat. I next ascertained the lobular structure, and concluded with Ferrein that the red substance was medullary, and the yellow cortical. Subsequent dissections, in which I found branches of both the portal and hepatic veins ramifying in the red substance, tended to unsettle the opinions I had formed respecting the anatomy and physiology of the two substances; and these opinions were finally overturned by the examination of a liver in which I found the branches of a portal vein alone ramifying in the red, and those of the hepatic veins in the yellow substance. The only conclusion that could be drawn was, that the red colour resulted from congestion; that it was medullary, occupying the centre of each lobule, when the hepatic, and cortical, forming the circumference, when the portal vein was congested. It occurred to me that the kidneys of birds having, like the liver, a double venous circulation, were equally subject to congestion, and would, like it, present an appearance of two substances. Dissection verified this conjecture; but the apparently two substances are red, one, however, being of a much deeper colour than the other. I have satisfied myself by repeated injections, by examination with the microscope, and by experiments on living animals, that the lobules are of the same structure throughout; that one portion of a lobule is not more vascular than another; that the acini of Malpighi, by contrast with the congested vessels, are even more apparent in the red than in the yellow substance; and that these supposed two substances are consequently identical in structure. That secreting biliary ducts are contained in the red as well as in the yellow substance, is proved by the relation given by M. Andral of a case of jaundice with '*coloration insolite du foie.*' '*Foie volumineux, pesant, très-dur, se déchirant difficilement, offrant une teinte générale d'un brun verdâtre. En l'examinant avec plus d'attention, on trouve que cette teinte n'est pas uniforme, et que le parenchyme du foie est formé, 1°. par un tissu d'un blanc verdâtre, disposé sous forme de lignes ou de plaques irrégulières, (c'est le tissu blanc ordinaire hypertrophié;)* 2°. par un tissu d'un vert brun foncé, duquel dépend la couleur générale que présente le foie, et qui est l'analogue du tissu rouge ordinaire.'*" This was a case of vitiated biliary secretion, with general biliary and partial sanguineous congestion combined. I have met with more than one case of this kind; I have also seen cases of jaundice in which there was no biliary congestion of the liver, and the highest state of biliary congestion without jaundice. In attempting to estimate the causes of the various shades of colour observed in the liver, it is not sufficient to examine the cystic bile alone; the hepatic bile should be also examined, and it will be generally found, as in the above case, that these shades of colour depend either on biliary or sanguineous congestion alone, or on the various combinations of both."

The following quotation exhibits his notions of the ultimate vascular ramifications:—

"It has been shown that all the *vasa vasorum* of the liver are branches of the

* Clinique Médicale, 1re Edition, tom. iv. p. 169.

hepatic artery and portal vein; that branches of the portal vein arise in the coats of the hepatic veins themselves; and that the veins of the coats of the vessels constitute the hepatic origin of the portal vein. The arterial blood having circulated through the coats of the vessels, becomes venous, and is conveyed by the veins arising in the coats of the vessels into those branches of the portal vein which correspond to the vessels in the coats of which the veins arise: thus, from the coats of the vaginal ducts, veins, and arteries, they convey the blood into the vaginal veins; and from the coats of the interlobular ducts, veins, and arteries, into the interlobular veins. From the coats of the hepatic veins and inferior cava, the blood is conveyed into the interlobular portal veins. In the vaginal and interlobular veins, the blood conveyed from the coats of the vessels becomes mingled with the proper portal blood. This mixed blood is conveyed by the interlobular veins into the lobular venous plexuses, in which the lobular arteries probably terminate, after having nourished the secreting ducts. From the mixed blood circulating through the plexuses, the bile is secreted by the lobular or secreting biliary plexuses.

“The blood which enters the liver by the hepatic artery fulfils three functions: it nourishes the liver; it supplies the excreting ducts with mucus; and, having performed these purposes, it becomes venous, enters the branches of the portal vein, and contributes to the secretion of the bile. The portal vein fulfils two functions; it conveys the blood from the artery, and the mixed blood to the coats of the secreting ducts. It has been called the *vena arteriosa*, because it ramifies like an artery, and conveys blood for secretion; but it is an arterial vein in another sense, being a vein to the hepatic artery, and an artery to the hepatic vein. The hepatic veins convey the blood from the lobular venous plexuses into the vena cava inferior.”

Having thus presented the leading points in Mr. Keirnan's exposition of the liver, we hope that the reader will be able to form a tolerably correct judgment of the whole. It is unquestionably a good performance, and may be read with much advantage. The plates which accompany it are exceedingly well executed.

XIV. *Clinical Lectures in the Manchester Royal Infirmary*. By EDWARD CARBUTT, M. D. “Nullius addictus jurare in verba magistri.” London, 1834. 8vo. pp. 407.

On the importance of clinical lectures as a branch of medical education there can be but one sentiment. They are essential in order to render the student familiar with the phenomena of diseases, to teach him how to detect the seat, nature, and extent of the organic lesions by which they are produced, and to apply correctly the remedial agents adapted for their removal. No course of medical instruction, however ample, can be considered as complete in which clinical lectures do not form a prominent branch. They constitute, in fact, a means of communicating medical knowledge which no other can possibly supply. They at the same time require, when properly conducted, a degree of professional knowledge and skill on the part of the lecturer which can be gained only by deep study and long experience.

These remarks apply exclusively to lectures actually delivered at the bedside of the sick—the symptoms under which the patient labours, their character and daily progress, in connexion with the different remedies administered, and should death occur, the appearances presented by the different organs and tissues of the body being carefully noted by the student and commented on by

the lecturer. Clinical lectures in a printed form cannot be compared in any point of view with the former, however useful they may be as a means of diffusing medical knowledge.

The course of clinical lectures delivered in the Manchester Royal Infirmary by Dr. Carbutt, a report of which is contained in the volume before us, comprises but a few of the more ordinary forms of disease as exhibited in one hundred patients treated in that institution from the beginning of June to the end of December, 1833. The cases detailed, we are told, comprise all those which came under the care of the lecturer within the period specified, without any attempt at selection.

In his comments on these cases, Dr. C. professes himself to be a thorough convert to the principles of physiological medicine, as set forth in the writings of Broussais; upon which principles his explanation of the character and seat of the diseases occurring in the different patients, and the treatment adopted for their removal, are presumed to be strictly predicated.

We have no particular inclination to find fault with the lecturer in consequence of his attachment to pathological and practical principles which, in their general outlines, we ourselves believe to be founded in truth. But we doubt very much whether, upon a close examination of the cases which he has detailed, the treatment to which they were subjected, and the observations accompanying them, we can justly concede to Dr. C. the credit of understanding in all their important bearings, the doctrines which he professes to advocate; it is very certain, at least, that he has failed in applying them correctly in much of his pathological and therapeutical reasoning. He seems to us to have taken up an idea, by which, indeed, many others have been led astray, that physiological medicine consists chiefly in attributing nearly all diseases to inflammation of the mucous coat of the stomach, and in applying leeches over the epigastrium for their removal.

The very definition of gastro-enteritis, with which his lectures commence, indicates a most unaccountable and unpardonable mistake as to the seat of the disease to which this term is applied; a mistake which certainly no one could have made who has paid any attention to the controversy to which the doctrines of the physiological school in relation to gastro-enteritis have given rise.

"If you ask," he says, "what is gastro-enteritis, I reply it is irritation or inflammation of some one part, or of every part of the mucous membrane of the alimentary canal, from the lips to the anus, but more especially of the mucous membrane forming the innermost coat of the stomach.

"It is principally to Broussais that we are indebted for having had our attention drawn to the numerous and important class of diseases which depend on irritation or inflammation of the mucous membrane of the alimentary canal, and which, for the sake of brevity, may be comprised under the term gastro-enteritis.

"The proximate cause, (of gastro-enteritis,) is an inflammation of part or of the whole of the mucous membrane of the alimentary canal from the lips to the anus."

Now neither Broussais nor any disciple of the physiological school, so far as we are aware, ever thought of applying the term gastro-enteritis to inflammation of any and every portion of the gastro-intestinal mucous membrane, but, on the contrary, they confine it strictly to inflammation affecting the lining membrane of the stomach and small intestines.

There is no little confusion and inaccuracy in Dr. C.'s detail of the symptoms which ordinarily accompany gastro-enteritis. In making up his list he has evidently confounded all the various grades of inflammation that may occur throughout the whole extent of the gastro-intestinal mucous membrane, and has presented the phenomena which they severally produce as those strictly of acute gastro-enteric inflammation. An error which every physiological physician would have been extremely cautious to avoid.

The author commences his description of gastro-enteritis by stating that it is generally characterized by pain at the pit of the stomach; but subsequently he remarks that "one of the most remarkable circumstances attending this complaint is the absence of pain upon pressure of the abdomen," and again, "I have said, and have laboured to prove that there is, in general, in this complaint no pain upon pressure of the stomach or abdomen." And yet in a subsequent lecture he informs us that one of the circumstances which induced him to suspect inflammation of the duodenum to be present in a certain case, was the pain induced by pressure over that intestine.

Gastro-enteritis is very seldom, it is true, accompanied by that intense fixed pain which is so common in inflammations seated in other tissues; when sub-acute, it may, even in many cases, be unaccompanied by pain, strictly speaking, excepting when pressure is applied upon the epigastrium; often pressure will only induce a mere sense of soreness, scarcely amounting to pain. But in the more intense grades of the disease an acute burning pain of the stomach is very generally a prominent symptom.

"Gastro-enteritis," observes M. Broussais, "occurs without any fixed pain, when the inflammation is not violent, and does not predominate in either the stomach or duodenum, and even pressure made on the abdomen does not then produce pain." (Prop. CXXXVI.)

When Dr. Bouchet observed to Dr. Carbutt "*Monsieur, l'inflammation sourde de l'estomac est un chien qui mord sans aboyer*," he expressed forcibly a very important truth, but did not countenance, as the latter would seem to imagine, the idea of the invariable or very general absence of pain in ordinary cases of gastro-enteritis.

Dr. C. remarks that when gastro-enteritis exists "with inflammation and ulceration of the colon or rectum, we have dysentery." He has here confounded gastro-enteritis with colitis. He ought certainly to have learned, before he attempted to teach, that the latter may and does often exist without the first, that ulceration of the mucous membrane of either the colon or rectum is by no means essential to the production of dysenteric symptoms, and that it is not very commonly present in the early stages or ordinary forms of the disease to which the term dysentery has been applied. "In dysentery," we are likewise told, "there is no pain produced by pressure." Every practitioner who has seen much of the disease can contradict this statment; as a general proposition it is unquestionably incorrect.

The author mentions among the phenomena peculiar to gastro-enteritis, "the non-liability to be tickled, however ticklesome the patient was when in health." This, though loosely expressed is not altogether incorrect. The circumstance occurs, however, in many other diseases, and Dr. C. should also have informed

his hearers that a slight attack of gastro-enteritis often produces an opposite effect.

The lecturer's explanation of the cause of the cough which so frequently occurs in cases of gastro-enteritic inflammation, is extremely curious.

"The cause of the cough which I have mentioned, is, no doubt, the irritation of the extremities of the eighth pair of nerves, which supplies, [supply?] the stomach as well as the lungs; which irritation being conveyed to the brain, the brain *makes a kind of mistake*, and, receiving the same impression as if the irritation came from the lungs, uses an instinctive effort to remove the cause of irritation from the lungs by exciting the act of coughing."

In regard to the plan of treatment pursued by the author for the removal of gastro-enteritis, we scarcely know what to say, so strange a combination does it present of remedies adapted to the disease actually existing, and of others, the prescription of which can be sanctioned only by admitting as correct, pathological views in discordance, often in direct opposition with those by which Dr. C. professes to be governed in his practice. It is unnecessary to give a general detail of his therapeutical directions, the following extract will suffice as a specimen. After directing bleeding and leeches, he goes on to say:—

"The patient must be kept strictly in bed, and have an emollient poultice constantly placed on the epigastrium and abdomen. If convenient, he may occasionally use the warm bath at the heat of 100° of Fahrenheit." [This, by the by, should be called a *hot* bath.] "He must, in general, have no medicine, except two ounces of the infusum rosæ compositum, with one-twelfth of a grain of acetate of morphine, three or four times a day.

"You may, *if you choose*, make trial of mercury; in which case, small doses of calomel combined with opium or of hydrargyrum cum creta without opium, will be proper: but if you give mercury you must omit the infusum rosæ compositum, on account of the sulphuric acid which it contains.

"You may also try the astringent sulphates; the sulphate of zinc in a dose of one grain to four grains; the sulphate of iron in a dose of one grain to three grains; the super sulphate of alumina and potassa in a dose of five grains; or the sulphate of copper in a dose of half a grain to one grain.

"If the bowels be costive, you must, *if possible*, avoid giving irritating purgatives, because in the irritable state of the mucous membrane, even castor oil will frequently bring on a very disagreeable looseness. A common purging injection, or even an injection of warm water, administered daily, will usually be sufficient. But when injections cannot be conveniently used, as in families of the very poor, then *you may make trial of a mild* purgative, as calomel and rhubarb, the Epsom salts, or calcined magnesia."

The author has not thought it worth while to say whether any modification of this treatment is demanded in the different grades or stages of the disease—whether the remedies detailed are to be prescribed in the early period of acute inflammation extending from one end of the alimentary mucous membrane to the other, for such cases he includes under gastro-enteritis, or to the more chronic and circumscribed forms of the disease. All he says is, that the remedies detailed are those adapted for the removal of gastro-enteritis.

When he has succeeded in *curing* the disease, that is to say, using his own words, "when the inflammation is entirely overcome, when the tongue has become clean, the vomiting has ceased, the pain has left the head, back, and loins, the arms, thighs, and legs," then he frequently administers "bark or

quinine, or calumba, with *wine*, *brandy* diluted with water, and beef tea or soup." In another place he tells us that towards the close of his convalescence the patient "may have leave to take mutton and beef broth or soup, brandy and water, wine, ale, and *any thing else he likes.*" This may be very excellent practice in the clinical wards of the Manchester Royal Infirmary, but we must protest against its being called rational and physiological.

The following sentence contains evidently an admission that at least under particular circumstances of the disease, the author's rational plan of treatment must be abandoned, if we would give our patients a chance for recovery.

"But sometimes, when incessant vomiting continues, attended with incessant purging, when the pulse is gradually sinking, and there is, apparently, no hope for the patient, I also," says Dr. C. "give brandy and beef tea." [The disease, let it be recollected, is inflammation of the lining membrane of the alimentary canal.] "It is not so easy to justify this practice: it is certainly contrary to the theory of the disease, and of the method of cure. The fact seems to be, that when the case becomes *absolutely hopeless under any treatment*, one feels irresistibly impelled, both in justice to the patient, to the feelings of the friends and bystanders, and, indeed, to one's own feelings, to have recourse to the *old practice, in order to afford the last small remaining chance of life*,—small, indeed! and seldom realized! But if you do not give this *last chance to the patient*, you will be accused by his ignorant friends and by the bystanders of having killed him."

Dr. C., in fact, frequently recommends prescribing "to satisfy the theories of the patient and of the bystanders," and to avoid popular blame, and he very candidly confesses that "where a patient labours under great *apparent* debility, we have not always the moral courage to abstain from giving him some stimulant, leaving him in his debility, which will instantly disappear when the inflammation of the stomach and duodenum, on which it depends, is removed." And yet, in these very lectures, he remarks, that when our plan of treatment is rational, "we ought to persevere: we cannot always command success; we must sometimes be content if we deserve it. Good theory and good practice are one and indivisible. They are, in fact, the same thing. As long as you practise, gentlemen, always consider the why and the wherefore. Ask yourselves what you intend to accomplish, what is your object, and then meditate most earnestly on what may be the rational mode of attaining that object!"

In prescribing the diet and regimen of an individual who has recovered from gastro-enteritis, Dr. C. directs him to wash his head and feet daily with *cold* water. As to the washing of the head we have nothing to object, but we must confess we are at a loss to understand upon what "*principles*" the washing of the feet daily in cold water is recommended. In many cases we should apprehend from the practice a renewal of the gastro-enteritis, or the production of even a more unmanageable affection.

Our author has a most unaccountable fondness for mercury as a remedy in nearly all diseases. The mercurial action he pronounces to be "the most certain remedy for inflammation in almost all the textures of the body, but more especially in serous tissues." And again he remarks "you will not forget what I told you of the virtue of mercury in removing inflammation from perhaps all the textures of the body." In this opinion he certainly differs very widely from the generality of physiological physicians.

On turning to the lecture of Dr. C. on "Ague," we were in hopes that we should find his pathology and treatment of that disease to exhibit in some degree, at least, the influence of the physiological doctrines, which he professes to have adopted, but in this we were grievously disappointed. On the pathology of intermittent fever he says not a single word, and the old routine system of treatment is pursued with but a slight allusion to the evils which so frequently result from it.

"You know, gentlemen," he observes, "that the *specific* for the ague is the cinchona bark, or the sulphate of quinine. The cinchona bark seldom fails. It has, however, when given internally, inconveniences, upon which I shall not particularly enter at present, that render it desirable to obtain its good effects, if possible, without the bad effects which sometimes arise when it is taken into the stomach. This is accomplished by the endermic method."

Now, the lecturer should have known that the bark or quinine is not, strictly speaking, a specific for ague. He should have told his class, that the disease may be, nay has frequently been, effectually cured, by a rational plan of treatment, without exhibiting one grain of either bark or quinia, or any other tonic; that the bark, given during the presence of certain morbid conditions of the organs will not only fail in producing any beneficial effect, but will, on the contrary, in most instances, endanger the production of chronic disease of the stomach and other abdominal viscera of a most serious character; he should have impressed upon the minds of his hearers the important fact, that the only safe and proper period for administering the presumed specific is after a perfect intermission of the fever has been obtained, and that it is then prescribed to prevent the return of the disease in future, a property which it possesses not exclusively, but in common with many other articles of the *materia medica*. In a clinical lecture on ague we might have expected to hear something said in relation to the practice of bleeding during the cold stage; a practice in favour of which much important testimony has been lately adduced. But this, and indeed nearly every thing in relation to the disease, Dr. C. has left his hearers and readers to gather from other sources. His explanation of the specific powers of the bark and quinia is certainly curious.

"They act," he tells us, "by producing a *glow of heat* in the system which counteracts the periodic cold which is the precursor of a regular fit, of which the cold is the first stage, and which cold stage is followed by a hot stage and a sweating stage."

Under the head rheumatism, the lecturer informs us that there seem to be comprised no fewer than five *different* affections.

"The first *appears* to consist in a *specific* inflammation of the muscular fibres, or of the cellular membrane of the *muscular* aponeuroses of one or more parts of the body.

"This kind of rheumatism, which is commonly known by the name of rheumatic fever, should be treated by means of copious and repeated bleedings. Large doses of calomel should be given, first as a purgative, next in order to affect the system. Purgatives, salts and senna, for instance, should then be administered." [No matter, we presume, what may be the state of the alimentary canal.] "Diaphoretics and sedatives, *the best of which is* the pulvis ipecacuanhæ compositus, or Dover's powder, should follow the purgatives. Lastly, large doses of the cinchona, or Peruvian bark, or, otherwise, of its preparation, the sulphate of quinine, *may* be exhibited. Low diet must be observed throughout."

The second form of disease *usually* styled rheumatism is an inflammation of the arteries or veins! This has at least the merit of originality.

"I must candidly admit," remarks the lecturer, "that I know of no precise diagnostic symptoms whereby to distinguish this affection from the rheumatic fever just described." "This kind of rheumatism should be treated with bleedings from the arm, local bleedings by means of leeches, calomel, salts and senna, Dover's powder in *large* doses, with low diet."

"The third form in which this disease appears, is an acute, hot, and highly painful affection of the joints, as the elbows, the wrists, the knees, the ankles, accompanied with a moderate degree of fever. This is generally called acute rheumatism. It must be treated by general bleedings, local bleedings with leeches, frequently repeated, calomel, purgatives, Dover's powder, the *hot bath*, *cinchona bark* or *sulphate of quinine*, low diet at first, *generous* diet afterwards."

"The fourth form of rheumatism is called chronic rheumatism, and is exactly the same as the third, except that its symptoms [?] are chronic, and there is little or no fever. It must be treated by leeches repeatedly applied to the painful joints, hot baths, blisters, calomel, stimulating liniments, *cinchona bark*, *ammonia internally*, *generous diet*, the affusing of cold water on the painful joints, or lastly, frequent bathing in the Buxton baths."

"The fifth form of what is called rheumatism, or chronic rheumatism, appears principally in the hip, and it is then known by the name of *Sciatica*. This affection sometimes attacks other parts besides the hip, as the face, the foot, and the mammæ. It appears to me that it is essentially an inflammation of the membrane which invests the nerve of the part affected. When it exists in the face, it very much resembles the *tic douloureux*, or, *for any thing I know* to the contrary, the *tic douloureux* may be the same disease, which I think extremely likely. It should be treated, *I apprehend*, by means of local bleedings, by cupping glasses or leeches, by blisters, by mercury, especially calomel, so as to affect the mouth, by sedatives, as opium, extract of hyosciamus, or Dover's powder; a very good combination is, one grain of calomel and five grains of extract of hyosciamus, four times a day. *Usually*, as soon as the mouth is affected with the mercury, or even sooner, the disease yields, as if by a miracle."

We shall conclude our notice of these lectures by presenting Dr. C.'s very luminous pathology of chorea.

"The commencement of chorea I believe to be an irritation produced in the intestines by the presence of accumulated fæces, or by the presence of worms. This irritation is conveyed to the brain, and produces uneasiness there. The brain makes an instinctive effort to get rid of this uneasiness, but having no power over the involuntary muscles of the intestines, it excites disorderly motions in the only muscles over which it has power, the voluntary. These disorderly motions being once excited, soon become confirmed by habit, which, as you well know, has great power over the voluntary muscles. Now, the consequence of the confirmation of the habit of disorderly motions in the voluntary muscles is, that the motions do not immediately cease upon the removal of the cause which originally excited them, but sometimes continue for months, sometimes for years."

The publication of Dr. Carbutt's clinical lectures is, we regret to say, scarcely calculated to increase our stock of medical knowledge. He has sadly misapplied the doctrines of the physiological school in explaining the morbid phenomena of very many of the cases to which the lectures refer, and we can perceive but very feeble traces of the influence of these doctrines in the treatment to which the patients were subjected. His book cannot certainly be received as a faithful exposition of physiological principles. It exhibits nevertheless in

many particulars a good deal of industry and zeal, and his lectures on the pathology of dropsy and diabetis, though they contain very few original ideas, are well worth an attentive perusal. D. F. C.

XV. *Handbuch der Allgemeinen Therapie zum Gebrauch bei Seinen Vorlesungen.* VON DR. JOHANN WILHELM HEINRICH CONRADI, Königl. Grossbritannisch. Hannoverschem Hofrathe, Professor der Medicin zu Göttingen, der Königl. Gesellschaft der Wissenschaften daselbst und Mehrerer gelehrten Gesellschaften Mitglieder. Cassel, 1833, 8vo. pp. 155.

Manual of General Therapeutics, for the use of his Pupils. By JOHN WILLIAM HENRY CONRADI, &c. &c.

The department of therapeutics, which embraces the general principles of medical practice, has been merged too much in our publications, as well as in our schools, in that of materia medica or pharmacology; and both authors and professors have been too apt to leave the deeply interesting study of the great modes in which remedial agents produce their effects, and to dwell upon the dry detail of the sensible and chemical properties of medicinal substances with the interminable catalogue of diseased conditions on which they have been—too often empirically—administered.

It has always appeared to us that there is a cardinal failing in this mode of viewing the subject. The department of therapeutics should be taught distinct from that of pharmacology. The doctrine of the great general rules for medicinal administration, and the principles on which they are founded, should be deeply impressed upon the mind of the student, and not until this is effected can he be enabled to comprehend the application of individual articles to special emergencies.

Such is the plan adopted in some of the best medical institutions on the European continent;—the department of general therapeutics being separated from that of the practice of medicine, as well as from materia medica, and constituting the duties assigned to a distinct chair. Similar feelings, regarding the “fitness of things,” have given occasion to separate publications on general therapeutics, of which the work now before us is one. In our own language, we have no original work on the subject. Indeed, the translation of Begin is the only one we recollect at this moment, as accessible to the English student in his own tongue. In Germany, the writers on this branch have been numerous; and the names of Hecker, Ackerman, Ch. W. Hufeland, Ph. G. Hensler, Augustin, Horsch, Sprengel, Remur, Bartels, Mushardt, Berndt, Si-bergundi, Winkler, and F. G. Gmelin, may be favourably specified.

The work of M. Conradi is intended, as the title indicates, for the followers of his lectures, as Professor of Medicine at Göttingen; and if, as is presumable, the “Handbuch” be a fair sample of the instruction he communicates, we should not be strongly impressed with its excellence. It has not the character of mysticism that prevails in the manual of the Messrs. Schorf, which we noticed in our last number. It is sufficiently plain and intelligible, but many of the views are antiquated; others, it appears to us, are erroneous; and the whole is behind the present advanced condition of pathological and therapeutical science.

We are pleased to observe the stress which M. Conradi places upon the necessity, in every case, of investigating the seat and nature of the diseased action;—an indispensable prerequisite for correct therapeutics. The routinist, like the homœopathist, attends only to the prominent symptoms; and his practice is accordingly unsatisfactory. He may do good, but as similar morbid manifestations may be produced by very opposite pathological conditions, his remedies may be, and often are, productive of harm. The judicious and the correct pathologist seeks out the suffering organ; he does not rest until he satisfies himself, so far as circumstances will admit, of the precise character of the morbid derangement, whether it is excited primarily in the tissue or organ, which exhibits prominent signs of morbid action, or whether it may not be induced consecutively—the primary mischief being situated elsewhere. All this requires science—an adequate knowledge of physiology and pathology, practised observation, and a wise discrimination; and not until he has satisfied his mind does the therapist attempt to lay down indications of cure, or to think of the particular remedial agents of which he shall avail himself for the removal of the malady.

Under the head of Indications of Cure, &c. (*von den Anreizen zur Cur*, u. s. w.) we have the following attentions recommended, several of which are not generally regarded with us as devolving upon the medical practitioner, and those that would seem to do so, are of doubtful propriety. The practitioner should never abandon all hope, so long as the vital functions persist, however subdued their action may be. His exertions for the restoration of the patient should be unremittently continued, and if this course be followed to the proper extent, there will be no necessity for those remedial agents suggested by M. Conradi, for mitigating what have been termed, but improperly, the pangs of death. Every thing, indeed, induces the belief, that during what is called the “agony” of death, the sufferer is only such in name. Whilst sensibility persists, he will generally complain of no uneasiness; and during the last heavings of departing life he is usually in a state of total anæsthesia;—dead to the external and internal world, as far as regards the perception of impressions, and consequently devoid of all suffering.

“When death is inevitable, the cares of the physician must still be given to the dying, to render his death, as far as practicable, easy, (*εὐπαισσία*.) The kind of death, however, differs according to the difference in the disease, age, and constitution of individuals; and accordingly the mitigation of the pangs of death, which is, at times, more or less necessary and practicable, has to be modified according to these different circumstances. If it be clear from certain signs, that the patient must die, he ought, at the least, to be no longer incommoded by the administration of troublesome and useless agents. Every thing that can occasion pain, or mental or corporeal distress,—as irritating applications, and the lamentations of the bystanders, (for even the dying have often consciousness,) ought to be avoided; whilst the admission of fresh air; a comfortable position; moistening the parched mouth; and especially a pleasing attention to the wants of the body; as well as a due pacification of the mind, by the circumspect introduction of the consolations of religion; and an attentive regard to the wishes respecting those that are to be left behind ought to be inculcated. According to the different circumstances of the patient, he may be refreshed by analeptic agents—naphtha, wine, cinnamon water, &c. or his pains, and agony, (*Todesangst*,) may be calmed by soothing agents, especially opium, (and particularly according to Behrends plan—by giving him from time to time small

doses of the tincture of opium with *naphtha aceti*;) or the threatening of suffocation, and the collection of matters on the lungs may be palliated by expectorants." p. 38.

What expectation of benefit can be indulged in such, almost hopeless cases, from the administration of any agents belonging to the uncertain and inefficient class of experiments? Their experiments might exhibit to the bystanders the attention of the practitioner; but it is impossible that he could calculate upon any benefit from them; and we are astonished to see that M. Conradi should consider them worthy even of mention.

As respects the *modus operandi* of medicinal agents in general, our author eschews the exclusive views of the humorists and the solidists; wisely remarking, that their agency must be exerted both on the solids and fluids.

"If remedies, by their influence on the solid parts, elevate or depress the different manifestations of the vital powers in the same—the irritability, sensibility, &c. or give them a new destination or direction, or change the physical and mechanical properties of the same by contraction or relaxation; they must equally occasion changes in the motion and condition of the humors." p. 40.

The division of the methods of cure, adopted by M. Conradi, will be best understood by the titles of his different chapters. The arrangement does not appear to us to be happy or lucid. 1. Antiphlogistic and relaxant methods. 2. The excitant. 3. The tonic. 4. The soothing, (*methodus sedans seu paregorica.*) 5. The revulsive. 6. The resolvent, (*die auflösende methode.*) 7. The evacuant in general. 8. The production of vomiting. 9. The cathartic method, and also the carminative and anthelmintic. 10. The diuretic. 11. The diaphoretic. 12. The expectorant. 13. The promotion of the nasal secretion. 14. The evacuations by the mouth, and especially the promotion of the salivary excretion. 15. The promotion of menstruation, and the lochial discharge. 16. Of blood-letting. 17. Of arresting excessive evacuations. 18. Of the method for removing discrasia, and also of the cure of poisoning; and lastly, of the treatment of organic defects.

The specific affinity exerted by particular remedial agents for particular tissues of the body cannot be questioned. It is this which occasions the cathartic to act on the bowels; the diuretic on the kidneys, &c. even when the agent is injected into the mass of blood. Few therapeutists, however, could venture upon the following specification of the preference exhibited for articles of the same class upon different organs or systems. It is but justice to M. Conradi to state, that he considers the action of some of them doubtful; and he suggests that fresh experiments are necessary.

"*Specific excitants of the lymphatic system* are mercurials, antimonials, alkalies, preparations of lime, *terra ponderosa salita* *calcaria muriatica*, *spongia marina usta*, and iodine itself, *cicuta*, *digitalis*, *belladonna*, *dulcamara*, *arnica*, &c.

"*Excitants of the skin* are the diffusible stimulants in general, especially camphor; also the *spiritus mindereri*; *liquor C. C. succinatus*, *pulv. Doveri.*, sulphur, antimonials, the *Sambucus*, *guaiacum*, *dulcamara*, *jacea*, &c.

"*Excitants of the lungs*—*polygala amara*, *senega*, *squilla*, *lichen islandicus*, *marrubium*, *myrrha*, *gummi ammoniacum*, *feniculum*, *phellandrium*, *flores benzoës*, sulphur, antimonials, especially the *sulphur antimonii auratum* and *kermes minerale*, *spiritus salis ammoniaci anisatus*, &c.

"*Excitants of the stomach and bowels*; besides emetics and purgatives, espe-

cially *bitters*, (stomachica, *visceralia*,) which, however, have rather a tonic effect.

“Of the liver—*aloes*, *rheum*, *chelidonium*, *fel tauri*, *mercurius*, *alkali fixum*.

“Of the kidneys and urinary organs—*nitrum* and other neutral salts in small doses, acids, *juniperus*, *squilla*, *digitalis*, *colchicum*, *senega*, *ononis spinosa*, *levis-ticum*, *pyrola umbellata*, *uva ursi*, *terebinthina*, *petroleum*, *balsamum copaivæ*, *cantharides*, *meloe majalis*, &c.

“Of the generative organs—*cantharides*, *sabina*, *varilla*, *aloe*, *balsamum copaivæ*, *borax*, *phosphorus*, &c.” p. 62.

Independently of the objection of classing some of the “local stimulants”—and not others—under the head of excitants, well founded objections may be made to almost every portion of the author's arrangement. What evidence have we that the articles he has cited exert their action on the lymphatic system specifically? and even if we were to admit, which we readily do, that such agents as iodine—in the modifications which they impress upon the system of nutrition—do affect the absorbent system especially, it is not as easy for us to allow, that some of the other articles enumerated, act in a like manner.

Where is the evidence, again, that *aloes*, *rhubarb*, *ox's gall*, &c. act specifically on the liver? Every thing, indeed, in M. Conradi's treatise goes to show, that the science of therapeutics is not as far advanced as it ought to be,—certainly we may say as regards M. Conradi himself, and we may be justified perhaps in adding, seeing that he holds so prominent a situation in one of the most respectable universities of his country—in Germany. There is too much confidence exhibited in individual articles of the *materia medica*—too extensive a catalogue of therapeutical agents, and too limited a knowledge of the great general principles of therapeutics. This is strikingly apparent, not only in M. Conradi's work, but in almost every production of the German press, whilst the absurd and repulsive agents admitted into their different pharmacopœias go to corroborate the general deduction. At the present day, we scarcely expected to meet with such an expression as the following in any respectable therapeutical work. “Very questionable is the efficacy of the tractoration, (*Vestreichen*,) of morbid parts with the needles of Perkins, or of Perkinism.” We were under the impression, that no one now admitted any specific virtue in Perkinism, and that it was but one of the many modes in which the imagination has been made at various times to act on the body—the *moral* on the *physical*. In this way its efficacy has been *unquestionable*; in every other null.

The *cinchona*, (*China*,) we are informed, possesses, in addition to its tonic effect, a power of diminishing immoderate excitability of the nervous system; or, according to Hensler—who ascribes this property to a volatile principle, it is tonico-paregoric, (*tonisch-paregorisch*.) M. Conradi ranges, in the same division of tonico-paregorics, the *Caryophyllata*, especially the *Millefolium*, which, he informs us, has long been considered to possess antispasmodic powers, and “has been recommended in spastic conditions of the abdomen, inordinate circulation in the portal system, and in hæmorrhoidal complaints,” but what the signs are of spastic condition, or of inordinate circulation in the portal system, or of any of the derangements to which he refers, he does not, and we suspect could not inform us.

The object of M. Conradi's resolvent method, (*auflösende methode*,) is to remove any obstructions of the humours; and it corresponds to the vague de-

obstruent method, admitted by the older writers. It does not consist merely in the administration of agents, which resolve inspissated and obstructed humours chemically or mechanically, but which act on the humours through the soft parts. Now, the conditions, he tells us, that may give rise to such obstruction, are numerous; sometimes they consist in debility and relaxation of the solids; at others in augmented sensibility, and a spasmodic condition; at others they are connected with dyscrasy, dependent on syphilis or gout; whilst at others, again, there may be inflammation present, (p. 95.) Of course, the treatment has to be regulated according to the precise pathological state, which is presumed to give occasion to this supposititious disorder in the course of the humours. Amongst the resolvents adapted for augmenting the activity of the vessels, we have such drugs as the *Radix graminis*, *Beccabunga*, *Saponaria*, *Fumaria*, &c. recommended; precisely in the same manner as the most inert and irrational articles were proposed one hundred years ago, for fancied pathological derangements of the humours, and on not a whit more foundation.

There are many other points in the work of M. Conradi, with which it would be difficult for us to accord; but what we have already observed, will sufficiently exhibit the general character of the production. It may be well adapted to accompany his lectures; but it is manifestly not calculated to enable the young therapeutical inquirer to derive accurate information on a branch of medical science, which is daily becoming more and more demonstrative. Had it made its appearance in the middle of the last century, it might have depicted tolerably well the existing knowledge of, and manner of elucidating the subject; but it is totally unfit for the present era, at least in this meridian, for which, by the way, it was not intended. It is only to be regretted, that it cannot be looked upon as adapted at this day to any meridian. R. D.

XVI. *Researches on some points of the History of Chorea in Children.* By M. RUFZ, Resident Physician at the Hospital for Children, at Paris. From the Archives Générales, February, 1834.

This essay is based upon the registers of the Hospital for Children at Paris, and on the private observations of the author, who was house physician during two years at that institution. Chorea is one of the very few diseases in which an error in diagnosis is scarcely practicable, from the obvious and distinct symptoms, which are unlike those observed in any other affection; hence, the registers of the Children's Hospital are sufficient to establish the relative frequency of cholera in the two sexes, and its occurrence at different seasons of the year, and at different periods of childhood. M. Rufz has examined other points relative to the history of chorea, which could not be ascertained from the registers of the hospital, but which were deduced from his personal observations.—To the talent and accuracy of M. Rufz as an observer, we can bear the highest testimony, from a long acquaintance, formed while prosecuting similar researches in other wards of the same hospital, and we are peculiarly gratified that he has ascertained, in a clear matter of fact manner, so many points in the natural history of chorea.

In the Children's Hospital at Paris, are received a large proportion of the children of the poorer inhabitants, between the ages of two and fifteen years.

The diseases are both acute and chronic, and are so numerous that the relative frequency of any affection can be easily ascertained. M. Rufz has examined the registers of the hospital for ten years, ending with 1830. The whole number of children admitted during these ten years was 32,976; of whom, 17,213 were boys, and 15,763 girls. Of these patients, 189 were affected with chorea, so that the proportion of the disease, compared with that of all other affections of childhood, is one in $174\frac{1}{2}$ nearly; the affection is unfrequent, therefore, though not extremely rare. Of the 189 cases, 51 occurred in boys, and 138 in girls. By comparing these last two numbers with the whole number of boys and of girls respectively, we find that one girl in 114, and one boy in 337, (exclusive of fractions,) was admitted with chorea—that is, that chorea is nearly three times as frequent in the female as in the male sex.* Chorea is rare before the age of six years; thus, of the cases of chorea there were—

From two to six years, 5 boys and 5 girls.

“ six to ten “ 16 “ 45

“ ten to fifteen 30 “ 88

The number of children, between the ages of two and ten years, was 71, and between the ages of ten and fifteen, 118; and as the first period includes eight years, and the latter only five, the proportionate frequency of chorea in the eight years of life, included between the ages of two and ten, is to that in the subsequent five years as one to two and two-thirds nearly. If, instead of including children below the ages of six years in our calculation, we examine the relative frequency in the four years between the ages of six and ten years, and in the five years from ten to fifteen, we find, (making the same proportionate calculation,) that the frequency in the first period is as one to one and a half, nearly. We therefore see that chorea is rare before the age of six years, that it is not unfrequent between the ages of six and ten, but usually occurs between the ages of ten and fifteen; the same proportions are true as to both sexes. The frequency of chorea in the latter years of childhood is even greater than the preceding calculation shows, on account of a fact which M. Rufz has not distinctly stated; that is, the number of children received at the hospital is less between the ages of ten and fifteen than in any period of five years before the age of ten. This we know, from our own observations.

Chorea seems rather more frequent in the summer than in the winter months, although the registers of the Children's Hospital show but little difference in this respect. M. Rufz has found that in eleven, out of eighteen patients, the origin of the chorea was ascribed to a sudden terror with which the children were seized. In some of these eleven cases, the influence of fear seemed direct and immediate; in the others it was doubtful. In eighteen cases, he found that neither the father nor mother of the children had been affected with chorea. The influence of imitation in the production of chorea is disproved by the experience of the Children's Hospital, where, although a considerable number of patients affected with chorea are constantly placed, no such instance of propagation of the disease has been known to occur. Chorea becomes more frequent

* Some unaccountable errors have crept into M. Rufz's calculation; the proportional numbers we give, are calculated from his own data, which we *know* were copied directly from the registers of the hospital.

as the age of puberty is approached, but none of the patients admitted into the hospital, had attained that period.

M. Rufz has seen four cases of death supervening during the continuance of chorea, and quotes two other fatal cases—one of them on the authority of the writer of this notice. In the case which we communicated to the author, death took place from the extreme violence of the irregular movements of the whole muscular system. In none of these six cases was any appreciable lesion discovered in the cerebro-spinal organs, although they were examined with great care by persons accustomed to researches of pathological anatomy. The lesions of other organs were very various, and apparently dependent upon the accidental disease, which, in most of the cases, was the cause of death.

Treatment.—At the Children's Hospital, the physicians were in the habit of treating chorea by cold baths, tonics, &c. with success, but the cure was slow, and frequently so protracted, that it was doubtful whether the termination of the disease was not owing to the unaided efforts of nature. M. Baudelocque, one of the physicians of the hospital, introduced the use of sulphur baths, made by dissolving four ounces of sulphuret of potassa in sixteen buckets of water, (equal to about ten or twelve of the size used in this country.) A bath was given five times a week; that is as often as the arrangement of the hospital permitted it. In fourteen cases, treated by these sulphur baths, there were thirteen cures. The mean duration of their residence at the hospital was twenty-four days, while the mean duration of the patients previously to the different methods employed, was thirty-one days. A diminution of the symptoms occurred after the second or third bath, and it was rarely necessary to give more than ten or twelve. In one case the cure was complete after the fifth bath. Other trials of the sulphur bath were made by the physicians of the Children's Hospital—many of these cases I have witnessed. At the Pennsylvania Hospital, there were treated four cases of chorea, during the past summer. In three of these cases, trial was made of the sulphur baths; some difficulty existed from the want of a suitable apartment where the baths could be taken without incommoding the patients in the adjoining wards. Some baths were, however, given with manifest advantage. The *actea racemosa*, or black snakeroot, was prescribed in doses of from ten to fifteen grains, four times a day. The cases are scarcely numerous enough to appreciate the value of this remedy.

W. W. G.

XVII. *Recherches Medico-Légales sur l'Incertitude des Signes de la Mort, les Dangers des Inhumations Précipitées, les Moyens de Constater les décès et de Rappeler à la vie ceux qui sont en état de mort Apparente.* Par M. JULIA DE FONTENELLE, Professeur de Chimie Médicale, &c. &c. &c. Paris, 1834, pp. 352, 8vo.

The subjects of Mr. Fontenelle's researches have long attracted the notice of the medical profession, and year after year works have appeared, well-calculated to direct the attention of the public to the dangers attendant on premature interments, yet whatever may have been the momentary impression produced by them, the world is still content to pursue the course which fashion or convenience has dictated; and in most civilized countries the scarcely cold remains of relatives and friends are hurried to the grave, without an attempt

being made to ascertain whether the vital spark is really extinguished, or is merely in a latent state.

It is not our intention to analyze this treatise in detail; we shall, at present, merely notice its plan, and the distribution of its contents in a cursory manner, at the same time recommending it to the attentive perusal of our readers, with the hope that some one among them may be induced to undertake a translation of it, and thus by rendering it accessible to all classes of the community, and awakening them to a sense of the horrors to which they are individually exposed, probably lead to the adoption of measures calculated to obviate the evil.

The work is divided into five parts; the first containing the author's views on life and death, which may be stated in a few words. He considers vitality as the *agent*, and not the *result* of organization, or to use his own words, "as that emanation from the divinity which gives effect to organization." In this part, and in an appendix, he offers some strong facts and arguments in support of the opinion of Sæmmering and others, that death by decapitation is one of the most painful ever devised for the execution of criminals, and that instead of all sensation ceasing on the separation of the head from the body, that the former experiences the most horrible agonies until the almost total extinction of its vital heat.

The second part treats of the uncertainty of the signs of death, and demonstrates that no one of them is of sufficient validity for us to decide with certainty that death is really and truly extinct, and even a concurrence of the whole of them, with the exception of decomposition, may mislead. There can be no doubt, that many persons have been allowed to perish, who might have been restored to the enjoyment of a protracted existence; and hence it is our duty to prevent, if possible, such horrible results of ignorance or inattention, by ascertaining what criteria are to be depended upon in doubtful cases. This has been so clearly and satisfactorily accomplished in the work before us, that an attention to its precepts will, in most cases, prevent any danger from a premature interment.

In the third part we are presented with a great number of instances in which unfortunate individuals have been hurried to the tomb in a state of suspended animation, where they have revived only to experience the agonies of a second and far more agonizing death. That this takes place far oftener than is generally supposed, and more especially in times of public sickness, there can be no doubt, when we advert to the number of well-authenticated cases detailed in the various records of our art. We are aware that the credulity of mankind and their love for the horrible and wonderful, have greatly exaggerated these cases; but when we consider how seldom it is possible to verify the fact of actual death at the time of interment, it must be evident that the relative proportion of those thus buried alive, has been so great as to require an observance of the utmost circumspection before we decide on committing a body to the grave.

The fourth part is devoted to the consideration of those diseases or states of the *living* body which produce a condition resembling death, and are too often mistaken for it. It would extend this notice to too great a length to attempt to speak of them in detail; we will merely state that this portion of Mr. Fontenelle's work is highly instructive, and contains numerous cases in illustration of his views, which deserve attention.

In the fifth part the author points out the modes in which the decease of individuals should be legally verified. In this country, as in most others, the laws on this head are very lax and inefficient, and require a scrupulous revision, but as even the most experienced may oftentimes be deceived, and the only plan which promises complete security is that adopted in many of the cities of Germany at the suggestion of the celebrated Hufeland, a full account of which is appended to the present work. It consists in the establishment of houses for the reception of bodies, in different parts of a town, where they are kept till unequivocal symptoms of decomposition begin to manifest themselves; wires connected with bells are attached to the feet and hands, so that the slightest motion in the body would be revealed. A physician is attached to each establishment, whose duty it is to examine the bodies, and to sign orders for their interment. If evidences of life manifest themselves, every exertion is used to restore animation.

The work terminates by a succinct but excellent detail of the means to be employed in cases of apparent death, whether from disease or accident, and a description of the apparatus for this purpose.

R. E. G.

XVIII. *Organon der Heilkunst*. Von SAMUEL HAHNEMANN, "Aude Sapere." Fünfte verbessert und vermehrte Auflage, mit dem Bildnisse des Verfassers. Dresden und Leipsig, 1833, 8vo. pp. 304.

Organon of Medical Science. By SAMUEL HAHNEMANN, "Aude Sapere." Fifth improved and augmented edition, with the portrait of the author. Dresden and Leipsic, 1833.

The Homœopathic Medical Doctrine, or "Organon of the Healing Art," a new System of Physic. Translated from the German of S. HAHNEMANN, by CHARLES H. DEVRIENT, Esq. with notes by SAMUEL STRATTEN, M. D. Dublin, 1833, 8vo. pp. 332.

Five-and-twenty years have passed away since the founder of the "Homœopathic Medical Doctrine" first propounded his singular opinions in the authoritative form of *Organon der Rationellen Heilkunde*—"Organon of Rational Medical Science." The book was issued from the Dresden press, but it did not at first attract, in a marked manner, the attention of physicians. In 1819 a second edition appeared under its present title. The epithet *rationellen*, or "rational," whether from modesty, or instinctive misgivings on the part of the author, having been omitted. Since that time, it has passed through two other editions, and is now, as the title at the head of this notice indicates, in its "fifth improved and augmented."

It is not our intention, in the present brief bibliographical notice, to inquire into the merits of this singular doctrine. This has already been done at some length.*

From homœopathy, as well as from every medical system, "rational" or irrational, some wise pathological and therapeutical deductions may be drawn, although we may be disposed to smile at the strange conceits which are encouraged by all of them; and if no other inferences were to be deduced from the system of Hahnemann, it would at least encourage us not to neglect too much

* See Vol. VII. p. 467.

the restorative powers seated in the frame, and in every part of the frame; and not to interfere too officiously, except where the degree of organic or functional aberration is such as to furnish the therapist with clear grounds of procedure. Nor is this the only useful lesson that homœopathy teaches. The injudicious method of throwing numerous ingredients into the magistral and other formulæ, is not upheld by it; one of the points, indeed, of belief which it inculcates, is, that every disease carries with it a great susceptibility for the proper medicine; one drug only is consequently exhibited at a time, and neither a new medicine, nor a second dose of the old is administered, until the former seems to have taken its proper or expected effect.

In the translation of the "*Organon*" by Dr. Stratten, who is a staunch homœopathist—one of the "good men and true" of the doctrine—we have the following observations, which will remind the reader of the great points of foundation of the system:—

"An accidental interview with a Russian physician, in the year 1828, made me acquainted, for the first time, with the medical doctrine of homœopathy; the principle of which is, that certain medicines, when administered internally in a healthy state of the system, produce certain effects, and that the same medicines are tolerated when symptoms similar to those which they give rise to, occur in disease. This doctrine, directly opposite to that which hitherto formed the basis of medical practice in these countries, attracted my attention. I immediately procured Hahnemann's *Materia Medica Pura*, in which the doctrine is partially explained, with the view of investigating the system experimentally, and reporting my observations thereon, free from theory, prejudice, or party. The first inquiry was, whether the proposition *similia similibus curantur* was true. This investigation was confined to a single substance at a time. To ascertain the effects of sulphate of quinine, healthy individuals were selected, to whom grain doses of the medicine were administered three times a day. After using it for some days, stomach sickness, loss of appetite, a sense of cold along the course of the spine, rigor, heat of skin, and general perspiration succeeded. Effects similar to these are often observed when the medicine is injudiciously selected in the treatment of disease. It sometimes happens that the symptoms of ague are aggravated by the prolonged use of sulphate of quinine, and soon after it is withdrawn, the disease gradually subsides. The results of experiments and observations on this remedy elucidate its homœopathic action.*

"Mercurial preparations, when administered internally, produce symptoms, local and constitutional, so closely resembling the poison of lues venerea, that medical practitioners, who have spent many years in the investigation of syphilis, find it very difficult—nay, in some instances, impossible, (guided by the appearances,) to distinguish one disease from the other; of all the medicines used in the treatment of lues, mercury is the only one that has stood the test of time and experience. Let us, then, compare the effects of syphilis with those of mercury. The venereal poison produces on the skin pustules, scales, and tubercles. Mercury produces directly the same defæcations of the skin. Syphilis excites inflammation of the periosteum and caries of the bones. Mercury does the same. Inflammation of the iris from lues is an every day occurrence; the

* The cinchona was the first drug experimented with by Hahnemann. Whilst occupied in translating the *Materia Medica* of Cullen into his own tongue, he was dissatisfied with the explanation of the febrifuge powers of the cinchona, and determined to make trials on himself; he took it in considerable quantity, while in perfect health, and found that it produced symptoms like those of ague! Hence he inferred that intermittents are removed by the cinchona, in consequence of its exciting in the system a morbid condition, similar to that for the removal of which it is administered with so much success.

same disease is a very frequent consequence of mercury. Ulceration of the throat is a common symptom in syphilis; the same affection results from mercury. Ulcers in the organs of reproduction are the result of both the poison and the remedy, and furnish another proof of the doctrine *similia similibus*.

"Nitric acid is generally recommended in cutaneous diseases; the internal use of this remedy, in a very dilute form, produces scaly eruptions over the surface of the body, and the external application of a solution, in the proportion of one part acid to one hundred and twenty-eight parts of water, will produce inflammation and ulceration of the skin. These observations would lead to the conclusion, that nitric acid cures cutaneous diseases by the faculty it possesses of producing a similar disease of the skin. Nitrate of potash administered internally, in small doses, produces a frequent desire to pass water, accompanied with pain and heat. When this state of the urinary system exists as a consequence of disease, or the application of a blister, a very dilute solution of the same remedy has been found beneficial.

"The ordinary effects of *hyoscyamus niger* are vertigo, delirium, stupefaction, and somnolency. Where one or other of these diseased states exists, it yields to small doses of the tincture of this plant. The internal use of *hyoscyamus* is followed by mental aberration, the leading features of which are jealousy and irascibility. (?) When these hallucinations exist, this remedy is indicated.

"Opium, in general, causes drowsiness, torpor, and deep sleep, and yet this remedy, in small doses, removes these symptoms when they occur in disease.

"Sulphur is a specific against itch, notwithstanding which, when it is administered to healthy individuals, it frequently excites a pustular eruption resembling itch in every particular." p. vii.

Dr. Stratten asserts that these deductions are drawn from actual experiments, the particulars of which he could cite, were it consistent with the restricted limits of an ordinary preface. The experiments are not, however, new with him. They have been invoked by every homœopathic writer.

On the subject of the extremely minute doses of remedial agents, which the homœopathists are in the habit of administering, Dr. Stratten has the following observations:—

"A mixture, composed of one drop of hydrocyanic acid and eight ounces of water, administered in a drachm dose, has produced vertigo and anxious breathing. Vomiting has followed the use of the sixteenth of a grain of emetic tartar; narcotism, the twentieth of a grain of muriate of morphia; and spirit of ammonia, in doses of one drop, acts on the system as a stimulant.

"On the homœopathic attenuation of medicines, many are sceptical, and presume that the quantity of the article extant in the dose, cannot produce a medicinal effect. I refer to the pages of the 'Organon' for the elucidation of this proposition, and will relate an experiment which may serve to explain the degree of dilution substances are capable of:—One grain of nitrate of silver, dissolved in one thousand five hundred and sixty grains of distilled water, to which were added two grains of muriatic acid, a gray precipitate of chloride of silver was evident in every part of the liquor. One grain of iodine dissolved in a drachm of alcohol, and mixed with the same quantity of water as in the preceding experiment, to which were added two grains of starch, dissolved in an ounce of water, caused an evident blue tint in the solution. In these experiments, the grain of the nitrate of silver and iodine must have been divided into one-fifteen thousand two hundred and sixtieth of a grain."

Like the followers of the expectant method, the homœopathists have not the sin of directly destroying the diseased, but it is not so clear that death is not often occasioned by their inefficiency; and the difference between actually destroying and suffering to die, when appropriate aid could be afforded, is not of great weight—certainly not of the weight of one of their *decillionths* of a grain.

The decillionth degree of dilution is, by the codes, very common in homœopathic practice; and the following extract from Hahnemann's *Treatise on Chronic Diseases*, as given by Dr. Stratten, will show to what an extent the farce is carried:—

"Of homœopathic medicines—take one grain of those that are solid, (mercury being included in the number,) or one drop of those which are liquid; put this small quantity on about the third part of a hundred grains of pulverized sugar of milk in a porcelain capsule that is not glazed, then mix the medicine and the sugar of milk together for a moment with a spatula of bone or horn, and pound the whole strongly during six minutes. The mass is then detached from the bottom of the capsule and pestle during four minutes, in order that it may be perfectly homogeneous, and then rub down afresh during six minutes with equal force. Collect the whole of the powder into a body during four minutes, then add the second *third portion* of the sugar of milk, and mix the whole for an instant with a spatula, then triturate with force during six minutes. This is to be once more scraped together during four minutes, and rubbed down again for six minutes. Stir the whole together during four minutes, and add the last *third portion* of the sugar of milk, which is to be mixed by turning it about with the spatula; then triturate the mass powerfully during six minutes; scrape it together during four minutes, and the whole is finally to be rubbed down for six minutes. After the powder has been carefully detached from the capsule and pestle, put it into a phial, and let it be corked, and labelled with the name of the substance, and the mark $\frac{1}{100}$, which shows that the substance is in the hundredth degree of attenuation. To carry the medicine to the ten thousandth degree of attenuation, take one grain of the powder marked $\frac{1}{100}$, prepared as above, add the same to the third part of an hundred grains of pulverized sugar of milk; mix the whole in the capsule, and proceed in such manner, that after having triturated each third portion with force during six minutes, scrape the mass together during a space of four minutes. The powder, when thus prepared, is put into a well-corked bottle, with the figures $\frac{1}{10000}$ marked on the exterior, which will point out its degree of attenuation. The same method is observed when this second powder, marked $\frac{1}{10000}$, is to be carried to the millionth degree of attenuation." p. 312.

They who are desirous of appreciating fully the views that are entertained in favour of this singular doctrine, as well as the doctrine itself, can accomplish the object by a perusal of either of the works before us. The German scholar will prefer the "*Organon der Heilkunst*. He who is not, the translation of Messrs. Devrient and Stratten, which, so far as we have collated it with the original, is sufficiently accurate. Versions have likewise been made into other tongues.

"The writings of the *illustrious* Hahnemann," says Dr. Stratten, "have appeared in five different languages, independent of the present version of his *Organon*;" and in France alone, a translation of this work, from that of A. J. L. Jourdan, Member of the Académie Royale de Médecine, has reached a fourth edition." R. D.

XIX. *Outlines of Human Physiology; designed for the Use of the Higher Classes in Common Schools*. By GEORGE HAYWARD, M. D. Boston, 1834, 12mo. pp. 217.

The time is not far distant, when the study of physiology will be considered a necessary branch of common education. Independently of its being one of the most interesting of the natural sciences, it is far more useful, inasmuch as it is capable of a much more frequent and extended application to the ordinary

concerns of life, than many of the branches of knowledge which are now usually taught in our schools and colleges.

Every judicious means, therefore, of facilitating the popular study of physiology is deserving of commendation, and among these, one of the most important is a manual, in which the science is treated of in a plain intelligible manner—the facts that have been established in relation to it being carefully separated from every thing of a doubtful, or merely hypothetical character, and explained in language divested as much as possible of all technical terms.

Though the preparation of such a manual is, confessedly, a task of no little difficulty, it nevertheless appears to us to have been more nearly accomplished by Dr. Hayward in the work before us, than by the few who have heretofore attempted it.

It is true, that upon a few points connected with the subject we should, to a certain extent, question the correctness of the author's views, and in regard to some others, would require a more extended exposition of the facts and reasoning of the more distinguished physiologists of the present day. These remarks will apply more especially to that portion of the work which treats of the structure and functions of the brain and nervous system.

Taken, however, as a whole, these *Outlines of Human Physiology* confer much credit upon their author, and ought to be in the hands of all who would desire to know something of the nature and vital powers of his own body. Such knowledge is essential to the proper management of the physical education of children; as well as to an acquaintance with those circumstances by which the health and vigour of the system is impaired, and with the means by which they are to be avoided.

The present work is admirably adapted as an elementary treatise, for the use of the higher classes in our common schools; and this object Dr. Hayward appears to have had principally in view in undertaking its compilation. D. F. C.

XX. *Medicinalbericht des Königl. Preuss. Medicinal-Collegiums der Provinz Sachsen, für das Jahr 1830.* Zusammengestellt von Dr. AUGUST ANDREAE, Königl. Medicinalrathe und Lehrer an der Med. Chir. Lehranstalt zu Magdeburg. Magdeburg, 1831. 12mo. pp. 96.

Medical Report of the Royal Prussian College of the Province of Saxony for 1830. Compiled by AUGUST ANDREAE, M. D., &c.

Although the above is the first title of the volume before us, yet it appears, from a second title, (*Auszug aus dem Medicinalbericht,*) that it is more properly an abstract of the report referred to.

The work is divided into two parts, each of which embraces the report for six months of the year, and is arranged into five sections.

The first section presents an account of the weather, epidemic constitution, and prevalent diseases.

The second, observations on the most remarkable epidemic, endemic, and contagious diseases which occurred within the province.

The third, observations on sporadic diseases, and remarkable cases in surgery and obstetrics.

The fourth, notices of the public institutions for affording medical relief.

The fifth, scientific medical notices.

This work is a specimen of one of the numerous forms under which medical and scientific information is diffused, at a very cheap rate, throughout every branch of the medical and other professions in Germany.

Although the remarks on the subjects embraced in the volume are extremely brief and superficial, as will readily be supposed, when it is recollected that the whole are comprised in less than ninety-six pages, duodecimo, such publications are nevertheless not without their advantages. They afford important practical hints to those whose means of information are but limited, facilitate the rapid diffusion of useful facts, and tend in no slight degree to render the experience and observations of the individual members of the profession, especially such as have the charge of medical institutions, the common property of the whole. They may be compared, in many points of view, to the quarterly summaries of our own journals.

In order to give the reader a better idea of the contents of the present report, we have translated from it one or two of the articles, without any particular attempt at selection.

“Hooping-cough.—As was noticed above, this disease prevailed at Mühlhausen as an epidemic during the second quarter of the year, and was in general of a mild character. A full account of it is given by Dr. Bernigau. The continuance of the disease in each patient was always protracted to five or six weeks, and by an improper diet was often prolonged to double this period. The constitution of the patients did not appear to exert any striking influence upon its duration. Dr. Bernigau is convinced that in some families it was propagated by contagion. In its treatment, he generally administered, at its commencement, an emetic, which had the effect of preventing the scanty discharge of urine which was otherwise observed—he subsequently directed the tartar emetic ointment, pediluvia, and injections. In the spasmodic stage of the disease he prescribed from a fourth to one grain of belladonna, either alone, or, for some days, combined with Kermes’ min. or sulph. aurat., less frequently with calomel, and finally with flor. zinci. When the patient could be induced to take it, he gave during the day the assafœtida, and night and morning the belladonna. ‘I would gladly,’ remarks Dr. B. ‘have substituted, in the cases of other children, for so disgusting an article as the assafœtida, the prussic acid, had it not been for the uncertain and indeterminate manner in which the latter is prepared, and, from employing the bitter almond water, which differs so evidently from the laurel water, I was prevented, from the fact, that I had frequently prescribed it in the dose of a spoonful, or even more, without observing any effect to be produced by it. Leeches I have never employed, either in this or in former epidemics of the disease. The principal cause of the long-continued and violent spasmodic cough so frequent in cases of pertussis, is the great neglect of confining the patient strictly to a proper diet. The least error in diet will produce and increase the cough and vomiting; especially should the use of any substance having an approach to acidity be avoided. This fact was confirmed by the effects I this day observed from the eating of cherries and strawberries.’

“Dr. Becher, of Mühlhausen, prescribes in the spasmodic stage of hooping-cough, equal parts of the tinct. ipecac. and rhois toxicodendri, of which a child from five to six years old may take ten drops three or four times a day, this dose being gradually increased to twenty drops.”

“Disease of the Heart.—A boy, sixteen years old, had complained for some months of shortness of breath, cough with expectoration, and palpitation of the heart, and when he came under the care of Dr. Niemeyer, of Magdeburg, he was labouring under complete hectic fever; the difficulty of breathing was excessive, and the palpitation of the heart was sensible to the ear. The abdo-

men and inferior extremities were dropsical, and many parts of the body were covered with vibices. The eye-lids were loaded with blood, and the pubes, scrotum, and inner surface of the thighs were of a dark blue colour. Under the use of diuretics, digitalis, and the bark with acids, nearly all these symptoms disappeared; the skin assumed its natural hue, and nothing remained to excite any suspicion of organic disease of the heart, with the exception of the palpitation. This state of improvement continued, however, only for a few weeks, during which time the patient was able to leave his bed and walk out into the open air. Finally all the symptoms recurred, and the patient died in a state of universal dropsy. On examining the thorax, the pericardium was found to occupy an unusually large space, the lungs being pressed by it, as in the fœtus, to the lateral and back parts of the pleural cavities; the pericardium nevertheless contained only two or three ounces of a thick, yellowish-brown fluid. Its substance was evidently thickened, and its inner surface was covered with a yellowish pultaceous substance. The heart itself was enlarged to nearly double its natural size. On its exterior surface a white spot presented itself of about half an inch in diameter, and a quarter of an inch thick. The enlargement of the heart was confined exclusively to its right half, the parietes of which were double the thickness, and its cavities three times more capacious than those of the left side, which latter was nearly in its normal state. The right cavities of the heart were filled with a polypus mass of considerable firmness, the left cavities were empty. No morbid changes could be detected in the great vessels given off by the heart."

"*Polypus of the Intestines.*—Dr. Tettenborn, of Wolferode, was consulted in the case of a boy, who, otherwise apparently in good health, had for nearly six months discharged blood per anum. The usual astringents, as alum, &c. had been tried without any good effect. The lad at length voided by stool a polypus of the size a heart cherry, which had been attached by a slender pedicle. After this the discharge of blood ceased. Dr. T. also mentions two other similar cases which he had previously seen in children of four years of age. The doctor presumes that the hæmorrhage was caused by the polypus passing out at the anus and becoming constricted by the sphincter. For a long time two eminent surgeons had mistaken the polypus in the above case for a hæmorrhoidal tumour."

Under the head of Scientific Medical Notices, we have the following:—

Aqua oxymuriatica recommended by Dr. Hoffman, of Suhl, as a wash for gangrenous ulcers, and also as an injection in cases of gleet.

Liquor hydrarg. nitrici is recommended, upon the same authority, in the treatment of lues. Dose seven drops, morning and evening,

A case is reported by Dr. Meyern, of Tastungen, in which the application of cold water to a rheumatic or gouty inflammation of the foot was followed by violent inflammation of the brain.

Two cases are reported by Dr. Fritze, of Magdeburg, in which tape-worms were entirely expelled by the extract. *filicis maris æth.*

Oleum jecoris aselli, (cod's liver oil,) mixed with eight parts of common syrup, and given in the dose of from two to four tea-spoonfuls daily, was found beneficial by Dr. Neide, of Magdeburg, in rhachitic pains.

The acetate of morphia is recommended by Dr. Kreysig, of Sangerhausen, as a local application in pains of the face, (*tic douloureux.*)

Dr. Friedrichs, of Torgau, cured a case of gangrene of the mouth, (*wasserkrebs,*) in a boy fifteen years old, which had already destroyed the greater portion of the soft parts of the left jaw, by a wash of the chlorate of lime dissolved in distilled water, and afterwards in a decoction of bark, using at the same time internally muriatic acid.

Dr. Reck also relates a case of the same disease cured by the use of animal charcoal.

A combination of assafœtida and phosphoric acid, in the form of pills, according to the plan of Rust, is recommended by Dr. Bötticher, of Sachsa, as a remedy in fistulous sores. An interesting case is reported of extensive sinous ulceration of the hip, occurring in a female thirty years old, completely cured by the above remedy in six weeks—laudanum was applied locally to the fistula. Neither the mode of preparing the pills nor their dose is given.

Cortex pruni padi is recommended by Dr. Rupprecht as a remedy in gout, in the form of decoction, made by boiling half an ounce of the root in four ounces of water, and then straining. The dose of which is a table-spoonful every two hours.

The mange occurring in cats is said to be capable of being communicated to the human subject.

A case of lameness from rheumatism, of three years standing, was cured by Dr. Schneider, of Sommerschenburg, by acupuncture in connexion with galvanism.

Two cases of the same affection were cured by Dr. Reinhardt, of Mühlhausen, by the use of liver-oil, (leberthran—train-oil?) in the dose of a table-spoonful, night and morning.

A case of scrofulous ophthalmia was cured by an extremely low diet, (die hungereur,) the patient at the same time taking one grain of calomel, morning and evening.

D. F. C.

XXI. *Chemistry, Meteorology, and the Function of Digestion, considered with reference to Natural Theology.* By WILLIAM PROUT, M. D., F. R. S. Fellow of the Royal College of Physicians. Philadelphia, Carey, Lea & Blanchard, 1834, 12mo. pp. 307.

The above work constitutes the eighth of the Bridgewater treatises on the power, wisdom, and goodness of God, as manifested in the creation.

Though the treatise of Dr. Prout is written principally for popular use, it cannot fail, also, to recommend itself strongly to the attention of even the scientific reader. In relation to each of the subjects which it embraces, the author has presented a large mass of facts and leading principles, in a form, which, though extremely condensed, is nevertheless free from the least confusion or ambiguity, and calculated, in a striking manner, to promote the general object of the Bridgewater legacy.

It is principally, however, the last division of the treatise which renders it more particularly interesting to physicians; that, namely, which treats of the chemistry of organization, especially of the chemical process of digestion, and of the subsequent processes by which the various alimentary substances are assimilated to, and become component parts of a living body.

The views advanced by Dr. Prout on this branch of his subject, are somewhat novel, and explain, in our opinion, in a more satisfactory manner, or at least throw much more light upon the process of digestion and assimilation than those generally entertained by physiologists.

It would be impossible for us, without extracting the greater part of the

sixty-seven pages devoted to this portion of the treatise, to give any thing like a clear and satisfactory account of the facts and arguments adduced by the author in relation to it. This, however, is comparatively of little importance, as the work itself is within the reach of all our readers, to whose attention we earnestly recommend it; we might almost say, that without an attentive study of it, no person can have a clear view of the chemistry of digestion and assimilation.

In applying the term chemistry to the operations of the living organism, it is proper to observe that Dr. P. has been careful to distinguish between the processes of this vital chemistry and those which take place when inorganic matter is operated upon in our laboratories. His views, on this point, are in part beautifully explained in the following sentence.

“The means by which that peculiarity of composition and of structure is produced, which is so remarkable in all organic substances, like the results themselves, are quite peculiar, and bear little or no resemblance to any artificial process of chemistry. For example, we have not, in artificial chemistry, any controul over individual molecules, but are obliged to direct our operations on a mass, formed of a large collection of molecules. The organic agent, on the contrary, having an apparatus of extreme minuteness, is enabled to operate on each individual molecule separately, and thus, according to the object designed, to exclude some molecules, and to bring others into contact. In these processes, it may be conceived that the molecules thus appropriately brought together, and at the same time guarded from extraneous influence by the organic agent, are in virtue of their own proper affinities, sufficiently disposed to unite, without requiring that any new properties should be communicated to them. Hence, the organic agent, in its simplest state, may be viewed as a power which so controuls certain organic matters, as to form them into an apparatus by which it arranges and organizes other matters, and thus effects its ulterior purposes. Where the operations of this simple organic agent terminate, those of another and more effective organic agent may be supposed to begin, which, by carrying the general process of organization a step further, adapts the organized material for the operations of a third and yet higher agent. Thus, each new agent may be supposed to possess more or less controul over all those below itself, and to have the power of appropriating their services, until at length, at the top of the scale, we reach the perfection of organized existence.”

D. F. C.

XXII. *A Practical Treatise on Medical Jurisprudence, with so much of Anatomy, Physiology, Pathology, and the Practice of Medicine and Surgery, as are essential to be known by Members of Parliament, Lawyers, Coroners, Magistrates, Officers in the Army and Navy, and Private Gentlemen, and all the Laws relating to Medical Practitioners with Explanatory Plates.* By J. CHITTY, Esq. Barrister at Law. First American edition, with notes and additions, adapted to American works and Judicial decisions. Part I. pp. 509. Philadelphia, Carey, Lea & Blanchard, 1835.

A work of this kind has long been a *desideratum*, for although, in consequence of the greater attention that has of late years been paid to medical jurisprudence, numerous treatises on this science are constantly making their appearance; they are, with few exceptions, calculated for the medical reader alone, and hence do not sufficiently explain the anatomical and physiological questions connected with the various points attempted to be elucidated. This is the

great fault of the otherwise excellent work of Paris and Fonblanque; the learned authors constantly allude to anatomical and physiological proofs in support of their views, which, though familiar to the physician, are wholly unknown to most members of the legal profession.

That a knowledge of the principles of medical jurisprudence and the facts on which they are founded, should be generally promulgated, scarcely requires an argument in its favour; it must be evident that an acquaintance with these subjects is highly important to our legislators, as they have to enact laws relating to public health, &c. and even effecting the medical profession itself.

“Should individuals, says the author, attempt to legislate upon matters concerning public health or police, unless they be acquainted with the principles applicable to the subject, and the probable consequences of supposed injuries, and ought they by statute, to prescribe punishment for injuries unless they know their natural or probable consequences; or would they hastily enact prohibitory clauses or laws of quarantine, so injurious to foreign commerce, on an ill founded ground that certain diseases were infectious.”

But it is still more incumbent on all persons concerned in the administration or practice of the law to be able of themselves to appreciate the value of medical evidence, so as not to be obliged to be implicitly governed by the dictum of a medical witness. To lawyers engaged in criminal courts, it is of the highest importance to have such a general knowledge of physiology, &c. as will enable them to put such questions to witnesses as will elicit the fullest information, instead of, (as is too often the case at present,) of perplexing with queries that either cannot be answered, or are totally irrelevant to the point at issue.

“How disastrous to his credit and how painful to his feelings, would it be to hear it asserted, after the execution of a prisoner, that the conviction was attributable to his counsel not having put, or having injudiciously put, a particular medical question, or generally proper questions, connected with the subject.”

But it is not alone, to the persons above alluded to, that such information is useful, there is scarcely a rank or condition of life in which an acquaintance with the topics discussed in the volume before us may not prove useful, and even admitting that an individual may pass through life without having occasion to make a practical application of it, such an extension of knowledge must necessarily enlarge the scale of human happiness, and tend to remove many of the evils under which society now labours.

In the present volume,—which, although complete in itself as regards the topics on which it treats, it is intended as an introduction to others,—the author has described and explained in a concise, yet plain manner, the structure of man in a healthy state, and at the same time noticed the principal diseases affecting each organ or function.

Whenever the subject under consideration has any direct bearing on the elucidation of medico-judicial questions, these are fully discussed; thus under the head of generation, all circumstances that may tend to explain the offences connected with miscarriage, abortion, premature birth, infanticide, &c. are fully investigated.

The work is also rendered more useful by numerous plates, and a most copious and elaborate index; this latter is the more necessary, as the work being intended rather as a standard book of reference, than to be read or studied consecutively, those persons who wish to gain information on the questions con-

nected with any particular case or inquiry are thus enabled to turn to the parts practically applicable.

One of the most valuable peculiarities of the work are the constant and copious references to the best authorities; the author observes on this:—

“I have, with considerable care and anxiety, collected, condensed, and arranged in analytical order, the best improved modern doctrines and authorities, medical as well as legal, upon every part of the subjects, and have constantly referred to some of the best works, so as to ensure accuracy, and enable the students, whether in Law or Physic, to resort to the highest sources for future information.”

As we before observed, this volume is the first of a series, the whole of which it is stated, will be brought out as speedily as circumstances will admit. The second part is to contain a practical view of pathology and surgery, with statements and observations on the rules of law connected with the various subjects discussed. The third part is to be devoted to the consideration of the laws relating to public health and police, to injuries affecting the person, and a comprehensive view of medical jurisprudence, police and evidence. The fourth part will give the laws relative to members of the medical profession in particular, whilst the fifth and last will treat on medical evidence.

In the American Edition of this valuable work, the publishers state that they have spared no pains or expense to render it generally useful, and that for this purpose the text has undergone a thorough revision, and numerous additions have been made from our own standard treatises on Anatomy and Physiology; of the value and number of these additional references, some idea may be formed, from the long list of American works employed, which is appended to the preface.

In conclusion, we may remark, that after a careful perusal of this work, that we can recommend it to those classes of the community for whom it is specially designed, as admirably calculated to supply that practical information on anatomy and physiology, so important to the due administration and elucidation of many of our laws, and we trust that its reception will be such as to induce a republication of the remaining parts.

R. E. G.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Observations on the Structure of the Brain.*—The *Annalen der Physick und Chemie* von Poggendorff, No. 7, 1833, contains an essay by Professor EHRENBURG, of Berlin, entitled, "The necessity of a minute mechanical examination of the brain and nerves in preference to the chemical analysis illustrated by observations," in which there is given an account of some observations recently made by him with regard to the minute structure of nervous tissue, as seen by the aid of a very powerful microscope.

Many attempts of a similar nature to examine the structure of that fibrous-like texture which is in general seen in some parts of a fresh brain, and which becomes more obvious when the brain has been artificially hardened by steeping in alcohol or a solution of the muriate of mercury, or by boiling in oil, have been made ever since the microscope came into use, but these attempts have led as yet to very unsatisfactory results.

A hasty repetition of Professor Ehrenberg's observations has not shown us the appearances described by him, but the well merited character for accuracy and skilfulness in the use of the microscope which that observer has acquired by his interesting researches on the structure and functions of Infusoria, makes us hope that they may be found to be correct, and satisfies us that a short account of them will at all events be interesting to anatomists and physiologists.

The discordance in the accounts given of the structure of the brain and nerves by Leewenhoek, Della Torre, Monro, Bauer, Home, and others, and the unsuccess which has generally attended this investigation, may in some degree have proceeded from unskilful management of the microscope on the part of some—from different modes of examination having been adopted by others—from a total ignorance with regard to the disposition of the elementary texture in which the nervous matter of the brain has been generally believed to be contained—from the supposition that has prevailed that a fluid or mucous matter might constitute the matrix in which the nervous filaments are deposited—and from the circumstance that fibres of very different magnitude have been looked for in the nervous texture by different observers.

Professor Ehrenberg has shown that the proper nervous substance of the brain and nerves does actually consist of very minute fibres; and he informs us that these fibres can only be discovered by the aid of a magnifying power of three hundred diameters, and that he was sometimes obliged to have recourse to a much greater magnifying power, as eight hundred diameters, in order to bring them into view. He examined thin slices of the recent brain, and states that the fibrous structure was in general most obvious at the thin margins of the

slices, when these were simply laid on the object glass-holder of the microscope, and that gentle pressure of the nervous substance between two thin plates of glass generally rendered the fibres more apparent.

The great mass of the cerebrum and cerebellum consists, according to professor Ehrenberg, of very minute fibres irregularly disposed in the cortical part, and there interspersed with globules and plates, converging as they pass inwards from the surface towards the centre of the brain. The greater number of these fibres have not a regular cylindrical shape, but present the appearance of strings of pearls, the swelled portions being situated at some distance from one another, and united by narrower parts which are continuous with them, and are formed apparently of the same material. Besides these fibres, which professor Ehrenberg calls *articulated*, from their knotted appearance, this observer states that towards the base of the brain and crura cerebri, other somewhat larger fibres, of a regular cylindrical form, are to be observed, interspersed among the articulated or knotted ones. These two sets of fibres are not held together by cellular tissue, nor fluid, nor mucous matter, but appear to be nearly in juxtaposition with one another, except where they are penetrated by the net-work of minute blood-vessels which are every where distributed through the brain. The cortical substance seems, according to Ehrenberg's observations, to differ from the medullary or white substance chiefly in the want of the straight cylindrical fibres, and in the articulated fibres being contained in a denser net-work of blood vessels, and being covered by a layer of free granules larger than the dilated parts of the knotted fibres.

In the brain, the fibres run for the most part parallel to one another; they are sometimes seen to cross, and, in a few instances, professor Ehrenberg states that he has observed two fibres uniting into one, but never any distinct anastomosis.

The larger straight cylindrical fibres, he states, are manifestly tubular, because it is possible to see the inner parietes of the tube, and on dividing some of these fibres and gently pressing them between plates of glass, a granular medullary matter was made to issue from them. In the knotted or articulated fibres he never was able to discover a distinctly tubular appearance, nor could any matter be pressed from their interior; but notwithstanding this, Ehrenberg considers these also as tubular.

Professor Ehrenberg has observed a remarkable difference in the minute structure of some of the nerves of special sensation, the great sympathetic nerve, and the compound spinal nerves. He finds that the olfactory, the optic, and the auditory nerves, as well as the branches of the great sympathetic, are entirely composed of knotted or articulated fibres, similar in size and appearance to those forming the great bulk of the nervous matter in the cerebrum; while the nerves of motion and the regular spinal nerves, are entirely composed of the straight cylindrical tubular fibres.

The cylindrical tubular fibres of the spinal nerves and of the nerves of motion coming from the brain, are considered by professor Ehrenberg as prolongations of some of the articulated fibres of the brain itself, for he has observed at the origin of a nerve of motion, that the articulated fibres gradually lose their knotted appearance as they pass into the root of the nerve, and increasing slightly in diameter, become the straight tubular cylindrical fibres proper to nerves of this description.

The net-work of the retina affords an excellent opportunity of viewing the articulated cerebral fibres, but in order that these may be well seen, there must be removed from their surface, a layer of coarse granules, nearly of the diameter of the nuclei of the blood globules, and similar to those which cover the flattened extremities of the articulated fibres, at the surface of the cortical substance of the brain.

It remains still to be investigated, whether the knotted kind of fibres are only to be found in the nerves above mentioned, or are peculiar to all sensory nerves, while the cylindrical tubular fibres are peculiar to motory nerves.

Both the cylindrical and the articulated fibres, as they pass from the brain into the roots of the nerves, receive a nervous covering or neurilema, which invests each individual fibre, and each bundle of fibres, as well as the whole trunk of the nerve, with a dense cellular and vascular coat.

The cylindrical fibres are stated to be about 1-120 of a line in diameter.

It must not be supposed, that professor Ehrenberg has confounded the tubular appearance of the nervous fibre with that of the neurilema, for he professes to have accurately distinguished the limits of both these parts.

The ganglia are described by professor Ehrenberg as somewhat resembling the brain, in respect to the nature of the fibres composing their nervous substance. They are formed by reticulated collections of both articulated and cylindrical fibres, interspersed with granules and cellular texture. In some places in the ganglia, he has also remarked a greater than ordinary enlargement of the swellings of the articulated fibres.

These observations have been made on the human brain and on that of some quadrupeds, of birds and reptiles, with nearly the same results in all.—*Edinburgh New Philos. Journ. July, 1834.*

2. *Abstract of Observations on the Structure and Functions of the Nervous System.* By JAMES MACARTNEY, M. D. Professor of Anatomy and Surgery in the University of Dublin.—The author begins by stating the received opinion respecting the structure of the brain, as consisting of two substances; the one an opaque white pulp, which is considered to be the nervous matter; the other a coloured substance, in some places inclosing the white, and at other places being imbedded in it.

It has been long known, he adds, that the white substance in many parts assumes the shape of bands or bundles of fibres. Dr. Spurzheim did not hesitate to call these fibres nerves, and was more successful in tracing their course in some parts of the brain than his predecessors had been.

But the author has employed a method of dissecting the brain, which has enabled him to discover that all our former ideas with respect to the structure of the cerebral organ fall far short of the intricacy with which its several parts are combined.

In order to perceive the real structure of the brain, recent specimens are necessary. The sight should be aided by spectacles of a very high magnifying power; and as the different parts are exposed in the dissection, they should be wetted with a solution of alum in water, or some other coagulating fluid. By these means it will be observed that all the white substance, whether appearing in the form of bands, cords, or filaments, or simply pulp, are composed of still finer fibres, which have a plexiform arrangement, and that all those fibres, to the finest that can be seen, are sustained and clothed by a most delicate membrane. By the same mode of dissection, also, it is possible to make apparent the existence of still finer interwoven white fibres in all the coloured substances of the brain, in many of which the nervous filaments are so delicate and transparent that they are not visible until in some degree coagulated by the solution of alum or by spirits.

Dr. Macartney has thus been enabled to see twenty-six plexuses not hitherto described in the brain, the fibres composing which assume two arrangements, the one reticular, the other arborescent.

The membrane mentioned as pervading the entire substance of the brain, and supporting its delicate organization in every part, has heretofore escaped the observation of anatomists, and yet when the fact is declared, we at once perceive that such a membrane must exist. It cannot be supposed that a mass of the magnitude of the brain, and possessing so definite an organization, should form an exception to the fabric of all the other parts of the body, and be left unprovided with a membranous support. This membrane is analogous to the cellular membrane; and if we admit that the filaments of the brain are similar to the fibres in other parts of the nervous system, we may consider the mem-

brane which sustains and connects the cerebral plexuses as their proper musclem.

The pia mater, or vascular integument of the brain, is composed of two layers; the external of which passes over the convolutions of the cerebrum and the gyri of the cerebellum, and the internal is reflected between these forms, and gives all their exterior surface an intimate covering. The blood-vessels seen on the brain are inclosed between these layers, and are conducted on the inner layer to the substance of the organ. The inner portion of the pia mater is continuous with the membrane of the substance of the brain, but becomes so delicate on entering the structure of the organ that it is readily detached from the brain without apparently injuring the integrity of its surfaces. When the inner layer of the pia mater is obtained in connexion with a portion of the vessels and membrane which penetrate the brain, it has the appearance of tufts or shreds, and as such has been described by Ruisch and Alkenus under the name of *tomentum cerebri*.

The musclem of the brain appears in the adult to be only furnished with colourless vessels, except in those places where red vessels are seen to pass into the substance of the organ; but in the *fœtus*, the coloured substance of the convolutions may be injected so as to appear quite red. This fact is consistent with the structure of many other organs during *fœtal* life, which in that period of existence receives red injection, yet only admits afterwards colourless fluids. The great degree of vascularity in the *fœtus* is particularly remarkable in the eye, the lining of the labyrinth of the ear, the periosteum, &c.

The author has ascertained that the actual quantity of the sentient substance existing in the brain and other parts of the nervous system is extremely small. The bulk of these parts is not materially diminished by removing their nervous matter, provided their membranous structure be left behind; and whenever we meet with the sentient substance in connexion with a highly attenuated membrane, as in the retina and in several of the cerebral plexuses contained in the coloured matter of the brain, it is absolutely invisible until it has undergone some degree of coagulation. It is, perhaps, not assuming too much from these facts, to suppose that the whole nervous system, if sufficiently expanded, and divested of all coverings, would be found too tender to give any resistance to the touch, too transparent to be seen, and probably would entirely escape the cognizance of all our senses. Consistently with this view of the matter, the author thinks that we can hardly take upon us to say that the simplest animals, and even plants, may not have some modification of sentient substances incorporated in their structure, instead of being collected, as in the higher classes of animals, into palpable membranous cords and filaments.

The term *plexus* has been generally employed to signify an interweaving or crossing of filaments; but Dr. Macartney is satisfied that there is an actual union or intermixture of substance in both the plexuses of the brain and of the other parts of the nervous system. He has discovered that the roots of the spinal nerves, instead of being connected with the medulla by mere contact or insertion, as hitherto supposed, actually enter into the composition of the filaments of the spinal marrow, and that these roots of nerves, (as they are called,) form communications with each other within the substance of the medulla. With regard to the cerebral nerves also, it can be shown that they are continuous with the cerebral plexuses in their immediate neighbourhood.

Many of the communications formed between the right and left sides of the nervous system are well known, such as the commissures of the brain, the crossing white filaments of the spinal marrow, the decussation of the pyramids, and the interchange of the two optic nerves in fishes. The author has found so many communications to exist between the origins of the nerves on the right and left sides of the body, that he is disposed to believe it to be a general fact. The optic nerves in the human subject do not decussate, as some have supposed, but form a very intricate plexus where they come into contact. This mode of conjunction accounts for atrophy of the *nervus opticus* being in some

instances found on the same side, and at others on the opposite side to that of the eye affected with blindness.

The facts already observed would justify the opinion that the sentient substance is in no place distant or isolated; that it is essentially one and indivisible; and consequently the nervous system differs from all the other systematic arrangements in nature.

It appears to the author that this view of the sentient system will alone serve to explain the numerous sympathies which exist in animal bodies, the occurrence of disease in the higher orders of animals from indirect or remote impression, and the operation of all remedies which act through the medium of the sensibility.

The mode in which the sentient substance is arranged, its more or less minute subdivision, and the degree of arterial vascularity, determine the phenomena of sensibility as they come under our observation. Hence, we find that the brain, even different parts of it, the spinal marrow, the trunks of the nerves, and their sentient extremities, are so differently endowed, that we might be almost led into the error of supposing them all composed of different materials.

It is well known to surgeons and to experimental physiologists, that the brain is not endowed with any *feeling*, in the common meaning of the word. It may be wounded without any sense of pain to the individual.

The trunks of the nerves not possessing the arrangement of the sentient substance suitable to common sensation can only transmit the feeling of pain. Thus, patients after amputation often complain of pain in the part that has been removed; but the author believes that in no instance have they experienced natural or agreeable sensations, or have expressed a consciousness of the presence of the removed limb unattended with pain.

The sentient extremities of nerves are alone capable of being affected by narcotic poisons. Half a tea-spoonful of the essential oil of almonds introduced into the substance of the brain of a rabbit did not produce the least effect on the animal, nor was any effect produced by placing the end of the sciatic nerve in a spoonful of the essential oil of almonds during half an hour, although the animal was afterwards killed in the usual manner by a few drops of this liquid on the tongue.

Impressions on the extremities of nerves sent to the organs of sense and to the external surfaces of the body are attended with consciousness in the individual, whilst those naturally made on the interior surfaces cause no perception. These surfaces, however, are amply supplied with nerves, and possess a high degree of local sensibility, by which they not only discern mechanic forms, but qualities in food and medicines that the perceptive powers of the individual cannot distinguish. These internal and unperceived sensations are continually though secretly influencing the condition of the whole nervous system, and are often the cause of remote morbid actions. Under some circumstances movement follows impression made on the *external* parts of the body after consciousness has become extinct. It is known that the ordinary actions of the iris correspond with the impressions of light on the retina; and the author has observed that the iris continues to move under the same law after the animal's head has been cut off, or the eye taken out, as long as the retina retains its local sensibility: similar effects take place in other parts of the body.

The mutual influence of the nerves and spinal marrow seems to be all that is necessary during fetal life, as the absence of the brain in the acephalous fœtus does not interfere with any of the functions of the creature until the moment of birth.

The offices which the coloured substance performs in the nervous system have been matter of speculation with anatomists. One obvious purpose of its existence is to give support and security to the finest subdivisions of the sentient substance; we therefore find that it affords such protection in proportion to the necessity: hence, in the brain, the coloured substance is soft and tender, while in the ganglia of the nerves it is generally dense and firm. Besides, how-

ever, forming a nidus for the ultimate plexuses of the sentient matter, the coloured substance would seem to fulfil some other use not yet ascertained, as wherever it exists it exhibits the same character with respect to colour, varying from yellow to green or brown. Dr. Macartney considers the yellow spot in the retina of the human eye, and in that of the monkey and lemur, as a ganglion, having discovered that it contains a more intricate reticulation of the nervous filaments than exists in the other parts of the retina.

The coloured substances of the nervous system in no degree derive their peculiar tints from the blood that circulates in them, since the colours are palest in the fœtus, and grow darker as the nervous system approaches its perfect organization.

It is a generally received opinion that the ventricles of the brain are cavities or hollow spaces containing some liquid. This error has arisen from the common modes of dissecting the brain, which necessarily separate the surfaces of the ventricles from each other. If, however, the dissection be performed without disturbing the natural position of the parts, not the slightest appearance of cavity or interspace presents itself. The sole use of the ventricles, therefore, seems to be, merely to gain an extent of surface necessary to the development of the peculiar organization of the brain. Apparently there is less superficies in proportion to the magnitude of the mass of the brain in man than in that of animals; but if we calculate the depth of the surfaces between the convolutions of the cerebrum and on the branches of the arbor vitæ in the cerebellum, together with the internal surfaces, we shall find that the superficies of the human brain is greater in relation to its bulk than that of any other animal. In addition to the surfaces already known, Dr. Macartney has ascertained the existence of ventricles, (so called,) in the bulb of the olfactory nerves, and in the optic thalami of the human adult brain. In the thalami the distinction of surface is obscure, but in the olfactory tubercles it is sufficiently plain.

The author concludes with stating his belief that every assemblage of the nervous filaments in the form of plexus is destined to fulfil an especial purpose, and with the anticipation that at no distant period we shall be able to understand many of the phenomena of sensation which have been hitherto veiled in the utmost obscurity.—*Report of the Third Meeting of the British Association for the Advancement of Science.*

3. *Connexion Between the Uterus and the Placenta Examined.* By DANIEL NOBLE, Esq. of Manchester.—Mrs. Shawe, aged thirty-two, of delicate habit, was in momentary anticipation of her confinement, when, on the 19th instant, she was attacked by a sudden and severe invasion of phrenitis, which terminated fatally on the evening of the following day. On the 21st, the body was examined by Mr. Anderson, surgeon, of this town, and myself. Having exposed the cavity of the uterus, by a longitudinal section of its anterior portion, we separated the fœtus, and then directed our especial attention to the junction of the uterus and placenta. For the purpose of more particular examination, we removed the upper portion of the uterus from the abdomen; and having washed its inner surface, we proceeded to effect the separation of the placenta. On taking hold of the sheet left by the destruction of the ovum, and tracing it to the placental margin, the splitting of the membranes, (almost united at the full period,) was beautifully observed; the amnion and chorion passing over the fœtal aspect, and forming the sheath of the umbilical vessels, and the decidua evidently separating from them at the margin. On commencing with the separation of the placenta, the decidua, at the margin and for a short distance, came along with it; and a considerable number of minute vessels were seen running from the lining membrane of the uterus to the decidua, and the decidedly greater calibre of certain vessels at the margin was distinctly observed. At a short distance from the placental border, the decidua ceased to separate from the uterus, and remained in connexion with its lining membrane; as the substance of the placenta separated from the decidua, the same abundance of

minute vessels were observed as between the uterus and decidua; but whether these were prolongations of the vessels proceeding from the lining membrane, or minute ramifications of the umbilical vessels, did not appear quite clear; for the rupture of the decidua by these vessels, during the separation, threw some little confusion upon the examination;—however the imperforate character of the decidua, which in some places we could observe, would, I think, lead to the inference that the minute vessels observed in separating the placenta from the decidua, were *not* prolongations of those noted between the uterus and this membrane, but extreme ramifications of the umbilical vessels adhering to the decidua. In two or three situations, a space of somewhat larger dimensions than the *superficies* of a half-crown piece was left, with the decidua attached to the lining membrane of the uterus, without the slightest laceration; beneath the decidua in this situation, a blow-pipe was introduced, and air was insufflated between it and the common lining membrane; the decidua was raised, and, to every appearance, there was not the slightest perforation. A director was then introduced, and the deciduous membrane divided; and, underneath, were observed two or three of those celebrated valvular orifices in the lining membrane of the uterus, most incontrovertibly closed by the apposition of the deciduous membrane. In another situation, after a portion of the decidua had been ascertained to be imperforate by the insufflation of air, it was separated a little more roughly; and upon attempting to pass a probe into the uterine sinuses, through one of their now well-known openings, a portion of decidua was found to have adhered to the margin of the orifice, and to close the aperture. On pushing the probe, however, through this portion of membrane, it readily entered one of the great uterine veins.—*Medical Gazette, September 6th, 1834.*

PHYSIOLOGY.

4. *Abstract of Observations on the Motions and Sounds of the Heart.* By HUGH CARLILE, A. B. Demonstrator in the School of Anatomy in the University of Dublin.—The circumstances in the history of the heart's action which have been most the subject of controversy within late years may be enumerated as follow:—1st, the expansion and contraction of the auricles and ventricles, commonly called their “systole” and “diastole;” 2d, the beat of the heart against the side of the chest; 3d, the arterial pulse; and 4th, the sounds perceptible during the heart's motion. With a view to the explanation of these phenomena, the author has made some experiments on living animals, the results of which he was desirous of communicating to the Association.

In experiments of this kind it is desirable, as well for ensuring the means of accurate observation as for the sake of humanity, to diminish as much as possible the suffering of the animal. This can be accomplished by the use of the artificial respiratory apparatus, the animal having been suddenly deprived of sensation without shedding its blood. But the author has found that the application of this apparatus causes the heart to continue and terminate its motions in an unusual manner, and is therefore liable on some points to mislead the observer. In those cases in which the employment of artificial respiration is not expedient, there is much advantage in using very young animals for experiment. In this stage of life, as well as in animals of the inferior classes, the different organs appear to have a comparatively independent existence; and as their functions are in many instances performed with little disturbance under serious injury to the individual, they also retain their vitality long after their separation from the rest of the system. From the same causes very young animals appear to suffer less pain during experiment than those of mature age.

After discussing the methods of experimenting, the author proceeds to describe the opinions which have been held by other persons on the subjects

in question, and to compare them with the conclusions to which his experiments have led.

1st. It has been asserted by Bichat, and his celebrity has induced many to adopt the opinion, that the ventricles possess a power of active dilatation, by means of which, when their systole has terminated, they are enabled to invite into their cavities the blood from the neighbouring auricles. The author, however, has ascertained by experiment, that there is no such dilating power in the ventricles, but that these muscles, when their state of contraction has ceased, become perfectly soft and flaccid, like all other muscles in their state of repose, and thus readily admit the blood from their respective auricles, which had become distended during the systole of the ventricles. The feeling of resistance which was mistaken by Bichat for a dilating power, and was supposed by him to accompany the diastole of the ventricles, the author has ascertained to be caused by the swelling of their muscular fibres during their systole.

The auricles contract but little upon their contents in man and in the higher classes of animals, the small quantity of blood which the ventricles discharge at each contraction being compensated by the frequency of their movement; while in the cold blooded animals, in which the heart acts with less frequency, the degree of expansion and contraction of both auricle and ventricle is much greater than in the former classes, and the quantity of blood sent through the heart at each movement is much larger.

2d. The impulse of the heart against the side of the chest, commonly called its beat, has been explained by different writers in various ways. Mr. Hunter supposed it to have been caused by the straightening of the curve of the aorta during the systole of the ventricles, whereby the apex of the heart was thrown forwards. Meckel refers it, in part, to the elongation of the arterial tubes during the ventricular contraction, and partly to the swollen state of the auricles at that time, by which the ventricles are pushed forward against the side of the chest. Harvey mentions an opinion held by some in his time, and which has been lately revived, namely, that the beat is caused, not by any active power in the ventricles, but by the muscular contraction of the auricles during their systole, by which the blood being sent with force into the ventricles, distends their cavities, and causes them to strike against the chest. This opinion, therefore, supposes the beat of the heart to coincide with the ventricular diastole. Various other suppositions have been put forward upon this subject by different authors.

The author's experiments show that the beat of the heart is coincident with the systole of the ventricles, and is caused by the peculiar shape which these parts acquire in their contracted and hardened state, their middle part becoming globular and prominent, and their apex being, as Hunter expressed it, "tilted" forward. During their systole the ventricles, like other muscles in a state of contraction, become swollen and hard to the touch, as was observed long since by Harvey. The greatest quantity of muscular fibre being situated about their middle part, where the "musculi papillares" are placed, this part during the systole assumes a globular and prominent form, projecting in front, and by its protuberance behind pushing forward the body of the ventricles. The apex is "tilted" forward for the following reason. The author has ascertained, by unravelling the structure of hearts prepared by boiling, that the fibres which pass from the base to the apex, on the front of the ventricles, are considerably longer than those similarly placed behind. In some human hearts he has found them in the ratio of five to three; the shape of the ventricles being nearly that of an oblique cone, whose base is applied to the auricles, and whose longest side is in front. Now, it is a law of muscular action, that fibres are shortened during their contraction in proportion to their length when relaxed. For instance, if a fibre one inch long, lose by contraction one-fourth of its length, or one quarter of an inch, a fibre two inches in length will lose *one*

inch by a contraction of equal intensity. We have seen that the fibres, which, by their contraction cause the apex to approach the base of the ventricles, are much longer on the front than on the back part, and, consequently the former are more shortened during their contraction than the latter. The apex, then, does not approach the base in the line of the axis of the ventricles, but is drawn more to the side of the longer fibres, that is, towards the front, thus producing the "tilting" forward.

This conclusion is strengthened by the fact, that the forward motion of the apex of the ventricles is always proportioned to the obliquity of the form of these cavities in different classes of animals. In the heart of some reptiles, the frog for example, in which the lengths of the fibres of the ventricle before and behind are nearly equal, the tilting of the apex is scarcely discernible. The obliquity is greater, as far as the author has been able to observe, in the human heart than in that of any other animal.

Mr. Carlile has ascertained, also, that the ventricles assume this form during their contraction, after they have been separated from the auricles by a ligature, and even after they have been removed from the body, and placed in a vessel of tepid water, or held upon the hand, the auricles having been previously cut off; in all which cases the peculiar motions which accompany their contraction and relaxation were observed to recur as long as their power of moving remained; proving that the beat of the heart is produced altogether by the action of the ventricles during their systole, and that in these, as in all other muscles, the peculiar forms assumed during their contraction depend upon the relation, as to length and position, of the fibres of which they are composed.

3d. The arterial pulse, which is produced by the jet of blood sent from the left ventricle into the aorta during its systole, has been stated by Bichat and many others writers to be synchronous throughout the whole arterial system. But the experimenter can ascertain in his own person that the pulse is successive at different distances from the heart. If the hand be placed over the region of the heart, and the radial artery be felt at the same time, an interval will be distinctly perceptible between the beat and the pulse; and if the anterior tibial artery be substituted for the radial, the interval will be found still greater. Repeated observations of this kind show that the intervals of time between each beat of the heart and the corresponding pulse in different parts of the body are proportioned to the distances measured along the arteries, from the heart to the respective parts; and a knowledge of this fact leads, without further anatomical inquiry, to the conclusion that the beat of the heart is coincident with the ventricular systole. For, as the intervals of time between the beat and pulse are proportioned to the distances from the heart to those parts where the pulses are felt, it follows that when the distances become evanescent the intervals of time will also vanish. Consequently, at the origin of the aorta the pulse will coincide as to time with the beat of the heart; but the pulse at the origin of the aorta is necessarily synchronous with the ventricular systole, by which the blood is driven into that artery; and therefore the beat of the heart will coincide with the ventricular systole, a conclusion which agrees with that drawn from positive experiment.

The proportion which exists in the pulse between the intervals and distances is dependent upon the elasticity of the arteries.

4th. An explanation of the *sounds* of the heart has become necessary since the employment of the stethoscope in ascertaining the state of internal parts. Laennec has well described these sounds, and properly refers the first to the rush of blood from the ventricles during their systole. But, in supposing that the second sound is produced by the auricular systole, he has fallen into an extraordinary error, as the second sound follows immediately after the first one, whereas the auricular systole precedes the ventricular. This mistake has been noticed by different writers since Laennec's time, who have rejected his explanation, and substituted others in its place.

From the observations which the author has made, he has no doubt that the

second sound is caused by the obstacle which the semilunar valves present to the passage of the blood from the arteries back into the heart, at the termination of the ventricular systole.

At each contraction of the ventricles a quantity of blood is driven by them into the trunks of the arteries, which, being already full, accommodate the addition to their contents by a lateral expansion of their parts nearest to the heart. When the systole of the ventricles is at an end, the elastic force of the arteries, acting upon their contained blood, drives it towards the heart, its entrance into which is prevented by the sudden closing of the semilunar valves: and thus a shock is communicated to the front and upper part of the ventricles, and to the adjacent trunks of the arteries, which may be heard by the ear placed over the region of the heart. The relation, as to time, which the second sound has to the first, its abrupt character, and its coincidence with the end of the ventricular systole, have led the author to adopt the foregoing opinion.

Mr. Carlile then described the experiments from which the greater number of the preceding conclusions have been drawn, and having detailed the circumstances of some made upon living subjects, proceeded to relate those which follow.

1. Artificial respiration having been established in a rabbit which had been strangled, and the heart having been exposed, the following observations were made.

The finger being applied successively to the front, back, and each side of the ventricles, conveyed the sensation of hardness and impulse when the ventricles assumed the globular form, and of softness and flaccidity when they became flattened and expanded. The end of a probe being laid on the front surface of the ventricles, was raised nearly a quarter of an inch during the former of these states, and sank, causing a slight depression on the surface, in the latter. The probe was more elevated when placed on the middle point of the surface, or on the front of the apex, than when placed elsewhere.

The right wing being held aside, so as to admit of the right auricle being seen, this was observed to swell during the continuance of the ventricles in their hardened state, and to diminish its size from the instant in which their flaccidity commenced, its degree of contraction being, however, inconsiderable. The contraction of the appendix was preceded by that of the rest of the auricle, and followed by the instantaneous movement and hardening of the ventricles. The contraction of the different parts of the auricle was successive, commencing at the *venæ cavæ*, and terminating at the appendix, of which last the contraction was much more sudden and distinguishable than that of any other part.

The heart in this subject continued to beat for an hour, when the motions in all its part ceased, and nearly at the same time; both auricles and both ventricles remaining distended, soft, and full of blood. The heart, separated from the body, was thrown into tepid water, where it remained, soft, and without motion, and had lost the power of contracting itself.

2. A rabbit having been strangled, the heart was exposed while still beating. In about ten minutes the left ventricle ceased to move, and had contracted itself firmly. In a minute or two afterwards all motion was at an end in the left auricle, which was also contracted. The right ventricle continued its movements for forty-five minutes, and during its contraction the apex of the heart was drawn a little to the right side. The right auricle continued to possess motion for an hour and three-quarters; and for the last twenty minutes its contraction proceeded slowly, and with a motion apparently vermicular, over its surface; always commencing at the part contiguous to the *venæ cavæ*, and ending at the appendix. The right auricle and ventricle contained each some blood when their motions ceased; but the heart having been thrown into tepid water, they gradually expelled their contents, assuming, as those of the left side had done, a firm and contracted state.

The difference of the states in which the hearts were found, after their motions had ceased, in the last two experiments, is remarkable, and appears to

admit of the following explanation. In the last experiment, in which no means were employed to continue respiration, the left side of the heart soon ceased to move; because a continuance of the functions of the lungs, as proved by the experiments of Bichat, is necessary to the maintaining of its actions. The firmness of its contraction shows, that although its ordinary motions had ceased, it still retained a considerable share of organic life, as it is known that muscles, whose vitality is quite extinct, have no power of contraction. In the experiment in which respiration was artificially maintained, the left side of the heart continued to beat for an hour, the sustained function of the lungs affording to it a motive for prolonged action; but having been deprived of the influence which the central parts of the nervous system extend to organs in vital connexion with them, its powers of life were exhausted by the long continuance of its motions, and when these ceased, it was quite dead, and incapable of a vital contraction. The right side of the heart in the last experiment seems to have participated in the exhausted state of the left side, because its motions had been performed with much more energy during their continuance than would have been the case had not respiration been artificially maintained.—*Report of the Third Meeting of the British Association for the Advancement of Science.*

5. *Case of Superfetation.*—A married woman, twenty-two years of age, was brought to bed of twins in the lying-in hospital of Berlin, on the 25th of January, 1832. The children were both girls, and died in two hours after their birth: their birth took place before the end of the seventh month from the date of pregnancy. One child was white, the other evidently a half caste, as was indicated by the shape of its head and the leaden tinge of its face, hands, and feet, which in colour resembled those who have been tinged by taking nitrate of silver in large doses. The same difference of colour was strikingly evident in the umbilical cords of the infants! but not in the membranes or placenta. On inquiry it appeared that she was in the habit of intimacy with a negro, shortly after or at the time she had conceived by her husband!—*Dublin Journal of Medical and Chemical Science.*

PATHOLOGY.

6. *On the Pathology of Jaundice.* By WILLIAM STOKES, M. D. &c.—Jaundice is to be regarded as a symptom rather than a disease *sui generis*, and it is a symptom which occurs in many diseases of a most essentially opposite pathological character. There is nothing, for instance, more different than disease accompanied by acute inflammatory action and disease without any inflammation at all; yet we may have perfect jaundice as a consequence of the one as well as the other. No diversity can be more complete than that which exists between the jaundice, arising from inflammation and organic lesion of the liver, and that which results from simple mechanical obstruction of the biliary ducts. It is, therefore, to be looked upon not as a disease, but as a symptom, and we may define it by saying, that it is a state in which the solids and fluids of the body are tinged more or less deeply with bile. Generally speaking, this presence of bile in fluids and solids, where it should not be normally, is accompanied by the absence of that secretion in the place where it is naturally found, the digestive tube. Yet it is an interesting physiological fact, and one of practical importance also, that we may have plenty of bile in the stools, during an attack of jaundice, or *that we may have jaundice coëxisting with even a copious flow of bile.* This is a strong proof in favour of the opinion, that some cases of jaundice have no connexion or dependence on the absorption of bile into the system, as, in the instances to which I have alluded, there is no mechanical retention of bile; the biliary ducts and gall-bladder are open, the bile passes freely into the intestines, and yet the whole body is jaundiced.

I have said, that jaundice is a symptom which is produced by a variety of causes,—these I shall briefly enumerate. Without entering into the ultimate mode of action of these causes, and their separate effects on the economy, it will be sufficient for my purpose to mention them individually. The first of these causes I take to be mechanical obstruction to the exit of the biliary secretion. Under such circumstances, one of these two things is supposed to take place, either that the bile, which is poured into the biliary duct and gall-bladder, and cannot get into the duodenum, is reabsorbed, or, according to another opinion, that the innervation of the liver is injured; in other words, that the liver is paralysed and unable to perform its ordinary functions, and that consequently it does not separate the materials of bile from the blood. The latter opinion has been advanced by men of high authority in the medical world; but when we find, on dissection, (as is not unfrequently the case in jaundice,) the biliary ducts and gall-bladder distended with bile, we cannot infer a paralysis of the liver as the cause of the disease, we must attribute it to the reabsorption of bile. I have taken mechanical obstruction to the flow of bile as one of the causes of jaundice. Now, you will find this to depend, in the first place, upon the presence of gall stones in the biliary or common ducts. A biliary calculus is formed in one of these ducts, it excites violent irritation, spasmodic pain, and often, (but not always,) jaundice. At my next lecture I will show some specimens of this obstruction. In the second place, the biliary ducts may, from various causes, become obliterated; they may be closed by adhesion, as the consequence of inflammation, or they may be impervious as the result of congenital malformation. In some cases children have been born without biliary ducts, in others the ducts have terminated in a *cul-de-sac*. A third cause of jaundice by mechanical obstruction is, where the flow of bile has been prevented by the pressure of tumours on the biliary ducts. Of this, one of the most familiar instances is disease of the head of the pancreas, or malignant disease of the pylorus or duodenum. I have, on a former occasion, alluded to a case of jaundice produced by aneurism of the hepatic artery, one of the rarest pathological circumstances on record, and one which has not been hitherto described. So rare is it, that, at a late meeting of the Academie de Médecine, that eminent pathologist, Cruveilhier, stated that he had never seen a case of it. I was so fortunate as to meet with an instance of this uncommon form of disease, and will take an early opportunity of exhibiting the preparation of it to the class. You will see by it how an aneurism of the hepatic artery may cause a complete obstruction to the flow of bile, and I shall be able to show you, that not only the trunks, but also the minute ramifications of the biliary ducts, are enormously dilated and filled with retained bile, and that these dilatations are continued up to the peritoneal surface of the liver, forming, as it were, so many aneurisms by dilatation of the biliary ducts themselves. The last cause of jaundice from mechanical obstructions, is, that which depends upon the accumulation of scybalous matter in the bowels, a thing frequently met with in old persons. Dr. Marsh alludes to this form of the disease in his admirable paper on jaundice in the Dublin Hospital Reports, and brings forward cases in which the jaundice disappeared rapidly under treatment calculated to remove accumulations of hard fecal matter from the intestines. So much for the varieties of jaundice which depend upon mechanical obstruction. Before I quit this part of the subject, it will be necessary to allude to another form of the disease, which bears some analogy to those already mentioned, namely, the spasmodic jaundice. With respect to this variety, there exists a great deal of doubt; some persons maintain that the ducts are muscular, and consequently liable to spasm like all other parts of the muscular system; others deny the existence of muscular fibres in the ducts; while a third party are of opinion, that the spasm resides in the duodenum, and that the contraction of its muscular fibres is the sole obstacle to the free passage of bile. It is of very little consequence which of these opinions we adopt; the fact is, that this is a form of the disease which we occasionally meet with in persons of an hysterical or hypo-

chondriac habit, but what is its exact seat we cannot ascertain. The probability is, that it is spasm of the duodenum itself.

The next class of causes, giving rise to jaundice, are those which are connected with acute or chronic disease of the liver, as, for instance, the different varieties of hepatitis and the existence of morbid growths in the substance of the liver. Here, however, it must be recollected that the occurrence of hepatic disease in the acute or chronic form does not necessarily imply the existence of jaundice; in other words, there are some cases of disease in the liver in which bile is freely discharged into the digestive tube, others in which it is not, so that the non-secretion of bile and the consequent production of jaundice are to be looked upon as accidental complications. I have seen a case in which there was enormous destruction of the liver from suppuration, where one of the lobes was almost entirely converted into a bag of purulent matter, and the other extensively diseased, yet the patient had not the slightest tinge of jaundice. We are ignorant, therefore, of the cause which determines the production of jaundice in one case of hepatic disease, and not in another; the question remains to be decided by future investigations. All we know is this, that it may occur or be absent in every form of acute or chronic disease of the liver.

The third great source of this affection is disease of the mucous surface of the stomach and duodenum, the most important, because it is the most frequent cause of jaundice. We are indebted to the researches of modern pathology for a correct notion of this form of the disease, and for the invaluable light thrown upon its treatment, which up to the time of Broussais had been extremely confused and empirical. Inflammation of the upper part of the digestive tube is an extremely frequent cause of jaundice, and this result is, generally speaking, *independent of any mechanical obstruction of the gall-bladder or biliary ducts*. This phenomenon may be explained by calling to mind the various examples of sympathetic irritation, and by recollecting, that disease in one situation frequently produces disease in another, or, in other words, that we have an irritation of the stomach and duodenum, in which the liver sympathetically partakes, and, as a consequence of this, the biliary secretion is arrested. In a former lecture I alluded to the strong sympathy which is known to exist between mucous membranes and the glands whose ducts open upon their surfaces. It is supposed by some that the irritation existing in the duodenum may be extended to the liver, producing paralysis of the functions of that organ, and jaundice. It would appear also, that the yellow fever of warm climates is only a variety of jaundice depending upon irritation of the gastro-intestinal surface. On this point the best pathologists seem to have made up their minds.

The last cause of jaundice seems to consist of the sympathetic action of the brain upon the liver, and this is an extremely curious circumstance. There are numerous cases on record of persons who have received an injury of the brain becoming jaundiced, and the same affection has been repeatedly known to supervene on powerful mental emotion. Thus we find that Murat, on learning that his queen had assumed the sovereign power at Naples in his absence, fell into a violent passion, and became almost immediately jaundiced. The close connexion which exists between the brain and the biliary system has been long known; it is unnecessary, therefore, that I should enter upon its consideration, for the purpose of accounting for an occurrence, the nature of which must be obvious to all. You will, however, find that jaundice is in the majority of cases connected with disease of the gastro-intestinal surface, and that this is one of the most common causes of the sporadic jaundice of this country. I shall return to this subject on a future occasion when we enter upon the consideration of hysteria.

Before I enter upon a description of the separate forms of jaundice, it will not be amiss to premise a few general remarks. I told you at the commencement of my lecture, that we define jaundice by saying, it was that state in which the solids and fluids of the body were tinged more or less deeply with bile.

Now, is this definition to be received without any exception? and does it embrace all the solids and all the fluids of the body? I have stated, that in some cases you will not be able to detect the slightest trace of bile in the stools. This is, however, but an apparent exception; it is perhaps because the bile is too small in quantity to be able to overcome the diluting power of the ingesta, or that the portion of it which finds its way into the digestive tube is too small to be appreciable by our senses under these circumstances. The rule of universal colouring in this disease will not, I believe, hold good; at least there are certain fluids and solids which are tinged only in a very slight degree; but the majority of the textures and fluids have been observed to be more or less distinctly coloured. For instance, we find the jaundiced tint appearing in bone, cartilage, muscle, in the cellular membrane, in the central positions of the teeth, but not in their enamel. It is doubted whether the hair is coloured or not, but it is the opinion of many that it is, and a professional friend of mine has assured me that he has had unquestionable proofs of the colouring of the hair. The membranes of the brain are distinctly tinged. I have seen the arachnoid and pia mater decidedly coloured in a case of dreadful gastro-duodenitis, to which I shall call your attention on a future occasion. The substance of the brain, however, has not been found to partake in this universal discoloration. Frank, who is a good authority on this point, states that the substance of the brain is never coloured, though the membranes may, and most commonly are. In my experience of jaundice, I have found the membranes distinctly coloured, but never could see any tinge of yellowness in *the substance of the brain*. I have, however, observed that when a horizontal section of the brain had been made in such cases, the orifices of the divided vessels, which are denoted by bloody points in the healthy state, seemed to pour out a quantity of yellowish blood, but the substance of the brain appeared white and normal.

With respect to the state of the fluids, you will find the blood distinctly coloured; the saliva also is yellow; the urine is loaded with bile, it stains the linen, and chemical analysis shows that a large proportion of the biliary secretion is blended with it. The perspiration is also tinged with it; and if you apply a blister you find the exuded serum bilious. If a person, labouring under phthisis or bronchitis, should happen to get an attack of jaundice, the pulmonary secretions will be often tinged with yellow. The mucous secretions from the vagina and uterus are also discoloured; but it is an interesting and curious fact, that the milk during lactation seems to escape the general impregnation with bile, and is never tinged. This would appear to be a beautiful provision of nature to prevent the child from being injured. Frank, who witnessed two epidemics of jaundice, one at Mayence, in 1754, and another at Ghent, 1742, states that he has never seen the milk tinged with bile. Dr. Marsh, in his paper on jaundice, mentions that in the case of one unfortunate female a yellow fluid was squeezed from the breasts after death; but this cannot be considered as a proof of the existence of bile in the milk during life.

In jaundice the eye almost always presents a very distinct yellow tinge, and yet it is a curious and interesting fact, that the patients very seldom complain of yellow vision. Out of several thousand cases of jaundice, Frank only met with five in which this symptom was observed.—*Lond. Med. and Surg. Journ. March 15th, 1834.*

7. *On the Cause of the Yellow Vision in Jaundice.* By WILLIAM STOKES, M. D.—The occasional occurrence of yellow vision in jaundice has excited a good deal of interest; and Drs. Graves and Elliotson, who have turned their attention to this subject, have made some ingenious and valuable remarks on this singular phenomenon. Dr. Elliotson's opinion is, that where this symptom is complained of, the cornea is in a state of irritation or inflammation, and that under these circumstances its vessels, which in their physiological condition are too small to allow of the passage of coloured fluids, become dilated, so as to carry bilious blood across the field of vision, and thus cause all objects to

wear a yellow hue. To support this opinion, he brings forward the case of a jaundiced patient, who had a considerable degree of inflammation in one eye, but none at all in the other, and who saw objects yellow with the inflamed eye, but of their natural colour with that which was free from inflammation. This case is, indeed, as far as it goes, extremely interesting, but I think it does not prove the point in question, namely, that the cause of jaundiced vision is irritation of the cornea, for it is a fact, that even when the cornea is deeply tinged, yellow vision is not of constant occurrence, nor does it affect all persons alike. One person sees objects in their natural colours; to another under the same circumstances every object appears to wear a yellow hue, and what is equally remarkable, this yellowness of vision is frequently intermittent; it is present to day and disappears to morrow. These are extremely curious facts.

The object of Dr. Graves on this subject, in the Dublin Medical Journal, is to explain the cause of the absence of yellow vision in certain cases of jaundice. He believes that the humours of the eye frequently escape the jaundiced tinge, and suggests that this may be a beautiful provision of nature for the preservation of sight. From his own observations he states, that the aqueous, and perhaps the vitreous humours escape. But it may be objected to this, that when all the fluids, the blood, the saliva, serum perspiration, &c. are impregnated with bile, how it is possible that the fluids of the eye should escape?—Does it not seem very extraordinary?—It does, certainly; but that it is possible, seems to be established by the following circumstances:—You are not to conclude because all the fluids which are found to exist in the blood are filled with bile, that the secretions, properly so called, which do not exist in the blood, should be also tinged with bilious discoloration. This is the answer which Dr. Graves makes to this objection—I recollect two cases of malignant cancerous disease of the liver, which were some time ago in the Meath Hospital, and which presented symptoms of universal jaundice before death. In these cases we found fluids deeply impregnated with bile,—every thing, in fact, seemed bilious and discoloured; and yet you will hardly credit it me when I tell you, that, on opening the gall-bladder, *it was found to contain a quantity of beautifully limpid fluid, perfectly transparent, and of a high refractive power.* Here, then, is a fact to prove that we may have intense general jaundice, and yet find in a sac, existing in a system so diseased, a quantity of fluid perfectly free from any bilious admixture, proving, at least, that it is possible that the humours of the eye may in a similar manner escape. Dr. Graves further remarks, that, even where the humours of the eye happen to become tinged, the alteration in the colour of objects may still escape the observation of the patient; because the change takes place gradually and insensibly. The patient does not think every thing he sees is yellow; he believes still that they are white, because the transition from one colour to the other has been so insensible as to escape his notice. This reasoning may, I think, apply to cases of yellow vision coming on gradually, but will not explain those in which it has been of sudden occurrence. The other cause which Dr. Graves adduces as tending to prevent a patient with a yellow cornea from seeing objects of the same colour is, the want of some standard of comparison to judge by. He has no means of comparing objects; and, though he sees this piece of paper, for instance, (yellow,) he thinks it is white; because every standard he looks to, every other piece of paper he examines, presents the same tinge. Dr. Johnson states, that most of the jaundiced patients, whom he has interrogated, were sensible of the alteration in vision to a greater or less degree, and observes, that the power of appreciating varieties of colour is retained, though we look through a yellow medium not deeply dyed, though yellow, of course, is made to enter into this composition. You will see this observation in the Med. Chir. Review for October last.

I shall conclude this subject with an observation which suggests itself to me, and this is, that the alteration of colour and may vision arise from other causes than the mere jaundiced condition of the eye; and that it may, (I believe this has not been taken notice of before,) depend upon direct nervous influence.

There are cases on record of patients labouring under typhus fever, who, without being in the slightest degree jaundiced, saw every thing yellow. There are also numerous instances of various colours, differing from the natural hues of the objects, being seen by patients in consequence of affections of the nervous system; and hence it is extremely probable that many cases of yellow vision in jaundice may depend upon a functional lesion of the optic nerves. I have one fact to bring forward on this subject of great importance. In the case of jaundice from aneurism of the hepatic artery, the patient saw every thing intensely yellow, until a few days before death, when all yellow vision subsided, and he saw objects of their natural colour, though the jaundice continued, if possible, more intense than ever. In this case there was no inflammation of the eye. I do not think that Dr. Elliotson's observations apply to all cases of this phenomenon. All that he has said is, that where the cornea is in a state of inflammation, there is a greater probability that there will be yellow vision in the affected eye or eyes; and this can be easily accounted for by the increased size of the vessels which the inflammatory process brings on. We may, however, conclude, that in some cases the alteration of vision may be owing to a yellow state of the humours of the eye, that in some it is the result of inflammation, and that in some it may be fairly attributed to a lesion of innervation. I think that the latter statement is borne out by the facts that there is a want of constancy in the occurrence of this phenomenon, that it is often of a more or less intermittent character, being one day present, and another day absent, and that it has been observed in cases where not the slightest symptom of jaundice existed. We must also bear in mind, that some of the most remarkable nervous symptoms commonly occur in jaundice, such as coma, &c.; and we may inquire how far the occurrence of yellow vision may be looked on as an indication of an excited state of the brain, and so lead us to measures calculated to remove impending danger.—*Ibid.*

8. *On Icterus Infantum.* By WILLIAM STOKES, M. D.—One of the first diseases of children is the icterus infantum, or, as it has been termed by nurses, the *yellow gum*. Children, shortly after birth, without any known cause, become suddenly jaundiced, and this, after continuing for some days, goes off, frequently without any treatment. This form of jaundice appears to depend upon some particular irritation of the intestinal canal, which seems to result from the circumstance of the digestive system being called into active exertion for the first time, and receiving a new stimulus from the mother's milk. It is a curious fact, that this form of jaundice generally disappears spontaneously. Now, it is remarkable, in this as well as in other cases, (when we recollect the nature of jaundice, and that there exists in the fluids of the body an irritating substance like bile,) that the effects of an admixture of the biliary secretion with those fluids should not be attended with more striking symptoms. In some instances we shall have intense jaundice without any particular effect upon the economy. There is some itching of skin, ardor urinæ, a little depression of spirits, and vertigo, which last for a few days and then disappear. Dr. Gregory mentions many cases of persons affected with jaundice who went about their ordinary business, and performed all the functions as if in a state of perfect health, eating, drinking, and sleeping in their usual manner. I have myself seen persons who laboured under this affection for more than a year, and yet had all that time their digestion good, their bowels regular, the flow of urine natural, and the circulatory, nervous, and respiratory systems apparently conformable to the standard of health. Dr. Blundell gives the cases of two children who lived for four months, apparently well fed and healthy; and, on opening their bodies, it was found that the biliary ducts terminated in a cul-de-sac, and that, consequently, not a drop of bile had been discharged into the intestines. Sir Everard Home gives a remarkable case of the total absence of the gall-bladder, and no passage of bile into the intestines, occurring in connexion with a perfect state of health. These are curious facts, and should be

borne in memory. I remember two cases of protracted jaundice in the persons of two male servants, who were admitted into the Meath Hospital with symptoms of irritation in the upper part of the digestive tube. From this both recovered under an appropriate treatment, but the jaundice continued in one for eighteen, and in the other for sixteen months. One of them, a stout, well-built, and fully developed man, came into the hospital some time afterwards in the apparent enjoyment of perfect health, except that he had still the jaundiced colour. He wished to be taken into the hospital to get cured of his jaundice, stating that, in consequence of the peculiarity of his appearance, he could not get a place any where, and was in a very distressed condition. From these facts it seems fair to conclude, that the symptoms of other affections, occurring after jaundice, are owing to some other cause than the bilious state of the blood.—*Ibid.*

9. *Jaundice from Gastro-duodenitis.*—This form of jaundice, taking all its causes into account seems to be the most common. The pathological expression for this form of the disease is, that it is inflammation of the upper portion of the digestive tube, or in other words, that it is the result of a gastro-duodenitis. In this case an inflammatory affection of the stomach and duodenum acts sympathetically on the liver, and we have jaundice occurring independent of hepatic inflammation or mechanical obstruction to the flow of bile. This variety of the disease it is important you should be accurately acquainted with, as it is not only exceeding common in temperate climates, but because I believe it is a great cause of mortality in warm countries, and that the yellow fever of the tropics is reducible in a great measure to this form of disease. In other words, that the cause of the yellowness and many other of the symptoms is to be referred to an intense irritation or inflammation of the digestive tube, with a predominance of that irritation in its upper portion.

The jaundice which depends upon gastro-duodenal inflammation was first accurately described by Broussais. Dr. Marsh has also made many valuable additions to our knowledge on this subject in his paper on jaundice, published in the fifth volume of the Dublin Hospital Reports. You will find too, that in a case of jaundice described by John Hunter, he suggests the possibility of its being preceded by inflammation of the duodenum. But I believe we are chiefly indebted to Broussais for our first correct notions of the pathology of this disease, and for its scientific and successful treatment.

The disease may occur in the acute form, or it may come on in a slow insidious manner; but in either case, as far as my experience goes, it is always accompanied by symptoms referable to a morbid state of the mucous membrane of the intestines. Dyspeptics and individuals subject to diarrhœa are liable to it, but it may also attack strong and healthy persons from the two following causes. A man is exposed to considerable heat, his body is bathed in perspiration, he experiences some degree of lassitude, and is very thirsty; in this state he takes a large draught of cold water. In a few hours afterwards he begins to feel uneasy, and complains of being unwell; he gets shivering, nausea, thirst, and fever, and this fever and thirst with bilious symptoms, (as they are called,) continues for two or three days, when some morning on awaking, the patient is surprised to find himself jaundiced. The same thing may happen as a consequence of error in diet. A person eats at supper a quantity of indigestible food, next day he has vomiting and thirst, and in a day or two more jaundice appears. I may remark here, that this indisposition of two or three days' standing is a very curious and interesting feature in the disease, and would seem to be connected with the progress of disease in the mucous surface of the stomach and duodenum. Jaundice from gastro-duodenitis generally occurs in this country under two varieties. The first is an extremely mild disease; it comes on with very slight and transient symptoms of constitutional or local derangement, it seldom prevents the patient from pursuing his ordinary avocations, and generally disappears without any trouble. The second variety is as extremely severe

and frequently a fatal disease; between this and the former there are numberless shades and gradations.

Let us take a case of the more severe form of jaundice. The cause of this, as I have already mentioned, is often the taking a copious draught of cold water, while the body is heated by exercise, or eating a quantity of indigestible food. The patient is indisposed for two or three days before the jaundice appears; he has nausea, vomiting, great thirst, loss of appetite, he complains of burning heat in the epigastrium, and there is some tenderness on pressure over the region of the stomach and duodenum. His tongue is foul, his bowels costive, his urine loaded, he has considerable prostration of strength, complains of vertigo and lowness of spirits, and is constantly sighing. There is always more or less febrile disturbance: in some cases the fever is ephemeral, and goes off in a day or two, in others it continues for a much longer period. When this fever continues beyond the second or third day, it is to be looked upon as an unfavourable sign, and you may expect that the case will be unmanageable and dangerous. There is another remarkable symptom on which I have had reason generally to found an unfavourable prognosis, *and this is a variation in the intensity of the yellowness*. In some cases you will find that to-day the countenance and skin are much less yellow, and this is always noticed by the patient, whose spirits are generally raised by the decline of the jaundiced tint, but in a day or two it becomes as deep as ever, and it may go on in this way, alternating from a faint to a deep tinge, and vice versa. This is an unfavourable symptom: it appears to indicate the repetition of inflammatory action in the intestinal tube, because each increase in the depth of the yellow tinge is accompanied by an increase of the epigastric symptoms. In such cases as this, the patient does not, as under other circumstances, shake off the disease and return to his usual habits; he lies in bed, and though he complains of no pain except when you make firm pressure on the epigastrium, still he is not at all improving; he tells you he is better, but he is still languid, and his appetite does not return. The stools are generally clay coloured, but this is not a necessary consequence of jaundice, they are sometimes yellow, and I have seen them of a perfectly healthy appearance. The pulse, in most cases where the fever is ephemeral, returns in a few days to its natural standard; in some instances it is remarkably slow, and this state of pulse is to be regarded as an unfavourable symptom. Sometimes there is a slight degree of subsultus tendinum and delirium, and I must observe that you are never to forget that the early supervention of nervous symptoms in any form of this disease is always to be looked upon with suspicion. One of the most alarming complications, however, of this gastro-duodenal jaundice is the occurrence of coma during its progress, a symptom to which the attention of the profession was first strongly directed by Dr. Marsh. He has given several cases of jaundice characterised by this symptom, the majority of which resisted all the ordinary resources of medicine, and terminated fatally. I must confess, too, that I have never seen a case in which the coma was distinctly established, terminate favourably. You should, therefore, when called to treat a case of jaundice, be always on the alert, and never allow any bad symptom like this to steal upon you, and it is gratifying to think that if you take this symptom in time, you will, in all probability, be able to overcome it.

An extremely interesting paper on this coma occurring in jaundice will appear in the forthcoming number of the Dublin Medical and Chemical Journal, from the pen of Dr. Griffin of Limerick. He gives the details of some extraordinary cases, which you will find well worthy of an attentive perusal. Out of four cases *in one family*, which he attended, two died, who had become comatose at an early period; in the other two the affection of the brain was relieved by bleeding and other active measures. From this it would appear, that the mere supervention of coma is not necessarily followed by death, but that it is an exceedingly dangerous symptom when it comes on at an early period of the disease. It is very difficult to give a satisfactory explanation of this. Some

persons think that it is attributable to the action of the bile on the blood which is circulating in the brain. This explanation would answer very well if coma was a symptom of constant occurrence; this, however, is not the case, and we must seek for some better reason. It is stated by some, that coma may be one of the consequences of the close sympathy which exists between the brain and liver. Dr. Griffin draws an analogy between the effects of suppression of bile in jaundice and suppression of urine in disease of the kidneys, and thinks that the affection of the brain is of common occurrence in one as well as in the other. This analogy, however, is incomplete, for we have no case of complete suppression of urine without fever and other violent symptoms, but we have many cases of complete suppression of bile with very slight and almost inappreciable disturbance of the economy. It is very difficult, in the present state of medical science, to explain the coma of jaundice; all we know is, that it sometimes occurs, that it is a bad symptom, and must be met with great activity. I may mention one fact which seems to be strongly opposed to the analogy of Dr. Griffin. It will be proper to observe here, that Dr. Griffin does not advance this as an opinion, or advocate it as a theory; he merely offers it as a hint or suggestion, leaving it to others to decide the question. We are not, therefore, in examining this analogy, reasoning against any opinion of his. But with respect to this matter, the fact to which I allude is this—one of the worst cases of coma I ever witnessed, occurred in a patient who had no suppression or retention of bile: the bile flowed freely into the intestines, the dejections were distinctly tinged with it, and yet this man had deep jaundice and intense coma. We are still in want of a number of facts on this point; it is a subject which affords a large field for interesting inquiry, and Dr. Griffin deserves great credit for the philosophical and impartial manner in which he has brought his cases before the medical public.

When a patient dies of jaundice, accompanied by this comatose affection, you are naturally anxious to ascertain the cause of death. Now, what you will generally find is this: on opening the head you examine the brain accurately, but cannot detect any lesion of its substance or membranes; you then go to the stomach and discover there marks of vascularity; you open the duodenum and find it in a state of intense inflammation. I have seen many cases of this disease, in which the mucous membrane of the duodenum was highly engorged and almost black. It is said that this inflammation extends from the duodenum along the common biliary duct to the liver. I am not possessed of facts to confirm this assertion, but I have little doubt that, in the majority of cases, the jaundice is more the result of a mere lesion of innervation of the liver, than proceeding from any spread of inflammation along the ducts into its substance. Unless we can demonstrate this inflammation, it is idle to assume its occurrence. When you examine the liver, gall-bladder, and biliary ducts, you generally find them in the normal state. In a few cases the ducts have been found impervious from adhesive mucus: you will see in John Hunter's works a case of this kind, which occurred in a consumptive patient. You will find a great number of important facts, relating to the pathology of jaundice, in the commentaries upon his own pathological propositions by M. Broussais. I would also advise you to peruse Dr. Marsh's excellent paper in the Dublin Hospital Reports.

We come now to the diagnosis of jaundice depending upon gastro-duodenal inflammation. In the first place, we learn from the history of the case that the exciting cause has been some excitant of inflammation in the mucous surface, the ingestion of indigestible aliment, or taking cold water into the stomach while the body has been overheated. The next thing is the supervention of fever with gastric symptoms, and these being followed in two or three days by an attack of jaundice, *without any of the ordinary signs of hepatitis*. Here we have a disease excited by taking cold water while the body is heated, or by indigestible food, preceded by febrile disturbance with gastric symptoms, and unaccompanied by the symptoms or signs of hepatitis. When this combination of circumstances occurs, you make your diagnosis with great certainty, and set it

down as jaundice depending on inflammation of the stomach and duodenum, and treat it accordingly. There are but two forms of jaundice by symptomatic fever, the one under consideration, and that which is the consequence of hepatic inflammation, or other disease. It might be supposed that the tenderness of the epigastrium was caused by an affection of the liver, but by making an accurate examination you will be generally able to discriminate with certainty. You will find that the pain is less than that of acute hepatitis, that strong pressure gives pain, not in the region of the liver, but in that of the duodenum; you can ascertain by a manual examination, and by the pleximeter, that there is no enlargement of the liver, that there is no remarkable dullness on percussion at the lower part of the chest on the right side, and when the fever is ephemeral, this will furnish you with much valuable assistance towards forming a correct diagnosis.

With respect to the treatment of this form of jaundice, in mild cases, where there is little or no fever, (for fever is to be taken as a test of the severity of the disease,) the patient very often gets well without any treatment, and the jaundice, after lasting a few days or weeks, goes off spontaneously. In all such cases a regulation of diet, keeping the bowels open by mild laxatives, and prohibiting wine, spirits, and other stimulants, will be found in general sufficient to remove all the symptoms. I wish, however, to impress upon you that it is of *the utmost importance to cut short this disease as soon as possible*. There is no use in letting it get ahead of you; and in every case where the symptoms are in any degree acute, and there is a degree of fullness and tenderness over the epigastrium, you will be culpable if you omit to apply leeches over the stomach and duodenum, and prescribe iced water, and every other means calculated to remove inflammation. If you allow it to go on to a certain length, if you allow fever to progress and coma to supervene, you will not be able to manage the case so easily. Never then omit the application of leeches the moment you have ascertained the existence of decided inflammation. Keep your patient's bowels open by enemata or by mild saline laxatives, regulate his diet carefully, prohibit all stimulants, and he will generally do well.

Many persons are in the habit of prescribing mercury in this disease. From my own experience I cannot say whether this is right or wrong; but I can state that I have seen a great many cases get well without it. But in cases where the symptoms are obstinate, and the stools continue white, I think you would be justified in giving mercury, even as far as to produce salivation. I must remark to you, however, that I have seen two cases in which it was found impossible to produce the free action of mercury in patients labouring under this disease. The exhibition of small doses of cream of tartar two or three times a day made into an electuary with some mild confection, I have found to be an excellent remedy in the treatment of this affection. In my lecture on dysentery, I mentioned some facts which go to prove that this remedy seems to have great power in bringing down bilious discharges. In this form of jaundice I found cream of tartar extremely useful, and its exhibition is unattended with danger.

Now suppose you should meet with a case in which coma appears as an early symptom, what should your line of treatment be? Here you have to deal with a very threatening symptom, which, if neglected for any time, will, in all probability, bring on a fatal termination. You should, therefore, on its first appearance, meet it with a corresponding activity; you should immediately have the head shaved, apply leeches behind the ears, blister the nape of the neck, and act smartly on the bowels by laxatives. It was by such treatment as this that Dr. Griffin saved his patients.—*Ibid*, March 22d, 1834.

10. *On a form of Gastro-duodenitis resembling Yellow Fever.* By WILLIAM STOKES, M. D. &c. A very remarkable form of gastro-duodenitis was almost epidemic in Ireland some years ago, at least it occurred during the existence of an epidemic fever, and we had at that time a great many cases of it in hospital. It is a curious fact that the majority of these seemed to bear a distinct resem-

blance to the yellow fever of warm climates. This will appear somewhat extraordinary; but, when you have heard a statement of the facts, you will be inclined to think that these cases were nothing more or less than so many instances of the malignant yellow fever of the tropics. I shall read for you an account of the symptoms, as they were observed in numerous cases under the care of my colleague, Dr. Graves, and myself, in the Meath Hospital.

In the great majority of cases this disease was preceded by fever, in fact all the patients who exhibited this form of jaundice had been admitted as fever patients. After a longer or shorter period, without any premonitory indications, symptoms of intense irritation of the digestive tube set in, and advanced with a fatal rapidity. Most of the patients vomited frequently; there was great tenderness of the epigastrium and over the region of the small intestine; the tongue became black and parched; there was a violent pain in the belly, and a spasmodic affection of the abdominal muscles, which felt hard and knotted, and to which the nurses gave the name of *twisting of the guts*, a name which singularly agreed with the numerous intussusceptions found along the course of the small intestine after death. This state of suffering continued from one to four hours, and then the body became all over suddenly jaundiced. Then came another train of symptoms. With intense and universal jaundice the patients exhibited also extreme restlessness, tossing their arms about, and regarding their attendants with a look at once expressive of nervous suffering and despair. Some raved, had trembling and convulsive fits, and were totally unconscious of every thing passing around them; others preserved their intellect to the last, but they had depicted in their countenances an agony and a despair which I shall never forget. General spasms were frequently observed; and many, on attempting to swallow, had spasms like those of hydrophobia. There was great irritability of the stomach; many vomited frequently, and in some cases the matter ejected bore an exact resemblance to coffee grounds. The pulse became low and fluttering, the extremities cold, the face pale and shrunken, and in some the nose assumed a purple colour, giving to the patient a truly horrible appearance. This change in the colour of the nose was preceded by extreme paleness; the part, at first, appeared as if it had been frost-bitten. Broad patches of a wax-like whiteness, elevated a little above the level of the skin, and somewhat resembling urticaria, having the same temperature as the rest of the body, were found on the following day to assume a reddish colour; and on the third day the redness was converted into dark purple. The toes were affected in a similar way; and in some of these cases the parts so affected sloughed and were thrown off. There is at present in this city a woman who lost the ala of the nose and one of the toes in this manner.

The phenomena observed on dissection were equally remarkable. Though the tenderness of the epigastrium was very great there was no trace of peritoneal inflammation; *neither was there in any case inflammation of the liver, and the gall ducts were found to be pervious in every instance.* The mucous surface of the stomach and duodenum and ileum were found in every case to present intense marks of inflammation, there were numerous intussusceptions along the course of the ileum, and the spleen was found to be large, soft, and pultaceous. There was no evidence of inflammation of the brain, but in the ventricles and at the base of the brain there was in some cases an effusion of yellowish fluid, and the membranes had a faint tinge of yellowness. In one case I found a remarkably dry state of the arachnoid. In one severe case there was a good deal of a substance resembling coffee grounds in the stomach, and the mucous membrane was soft and disorganised.

All the phenomena of this disease, the gastro-intestinal inflammation, the yellowness of skin, the enlargement and softening of the spleen, the rapid fatality and excessive prostration, seem to point out a strong analogy between it and the yellow fever of warm climates. In the writings of Rush and Lawrence you will find, that their description of the phenomena observed on dissection, would in a great degree answer for those of the cases which I have detailed. I may

mention here, too, that in our cases the mortality was severe. We lost the first sixteen cases; and it was not until we fully ascertained the nature of the disease by dissection, that we begin to save these patients. Then by free depletions, copious applications of leeches to the abdomen, and the bold use of calomel and opium, we succeed in a great number of cases. In some cases death took place in four, in others in six hours, in a few it was more prolonged. There is no epidemic on record in this city in which the same symptoms and the same rapid fatality were observed.

With respect to the analogy between this disease and yellow fever, it appears that in the latter affection the yellow colour depends upon the presence of bile in the blood. This is one point. Again, from the most accurate descriptions which have been given of the morbid appearances of yellow fever, it appears that in the majority of cases the liver has been found healthy; here is another point. In yellow fever also, inflammation of the stomach, duodenum, and intestines, is a matter of almost universal occurrence, as you will find by examining the works on yellow fever. In our cases we had all these circumstances; we had extreme tenderness of the epigastrium, and inflammation of the stomach, duodenum, and intestines; and in one severe case we had black vomit. All these circumstances, combined with the fatality, seem to prove that the cases which were under treatment in the Meath Hospital during the epidemic of 1826-7, bore a very striking resemblance to that species of fever which is supposed to exist only in warm climates. It is probable that if yellow fever should appear in temperate countries, it would exhibit itself in the form of gastric fever, with some cases only of yellowness. Indeed it seems to be now very generally admitted, that yellow fever has nothing peculiar in it, that it is the maximum of bilious or gastric fever. We find that in proportion as we approach the warm latitudes, the digestive mucous membrane appears to take on a greater susceptibility of disease. Between the tropics it would seem as if morbid actions were chiefly thrown upon the viscera of the abdomen. Europeans who have resided there for any length of time acquire a yellow tinge, and many of them suffer from intestinal and hepatic inflammations. If we go northward we find the case to be the reverse; as we approach the colder latitudes we find the mucous membrane of the digestive tube acquires a greater degree of tone and vigour, that it is less susceptible of disease, and can bear much greater stimulation. The inhabitants of warm climates use a large proportion of vegetable food; they seldom indulge in the use of animal food or spirits. The Hindoo lives on rice, the Arab on dates and milk. But if we go northwardly, we find the natives habitually using stimulating food and drink with impunity; indeed, it is wonderful to think what vast quantities of flesh, animal oil, and other stimulants the stomach of an Esquimaux or a Kamskatkan will bear without injury. There is no doubt that warm climates predispose to inflammatory affections of the digestive apparatus, and this seems to connect yellow fever with the ordinary form of gastro-duodenitis accompanied with jaundice, or, in other words, a little more extent, a greater degree of intensity, and we may have the jaundice of this country converted into yellow fever. And it is fair to conclude, that the *typhus icterodes* of temperate countries owes its danger not to the mere circumstance of jaundice existing, but to the greater degree of secondary gastro-enteritis which has produced that jaundice.—*Ibid.*

11. *Jaundice from Obstruction of the Biliary Ducts by Calculi.* By WILLIAM STOKES, M. D.—Gall stones are more commonly observed after the age of forty or fifty than before these periods; they are very frequently met with in persons of sedentary habits, and hence women are more subject to them than men. They are also liable to occur in persons who eat highly seasoned indigestible meats, and take little or no exercise. It is stated that in England five-sixths of the cases of gall stones occur in females. I do not know whether this proportion be exact, but the fact is established that they are more common in females than men. Biliary calculi may be found in three different situations, either in

the substance of the liver, or plugging up the biliary ducts, or filling the gall-bladder. Here is a preparation, exhibiting the gall-bladder almost obliterated by the pressure of a number of those calculi within its cavity. Here is another specimen. You see the gall-bladder is contracted, and nearly filled up with biliary calculi; it also appears to be atrophied and reduced in size. Here is a remarkable specimen: you observe the gall-bladder, which is rather large, is completely filled with a vast calculus; its coats are also thickened, probably the result of inflammation. Here is another preparation of the gall-bladder, containing two moderately-sized calculi.

Gall-stones when lodged in the substance of the liver, or in the gall-bladder, may remain for a long time and accumulate prodigiously without producing jaundice. This has been frequently proved by the fact, that on opening the bodies of persons who have not had during life the slightest symptoms of jaundice, the gall-bladder has been found completely filled up with these productions. But when any cause determines the passage of one of these bodies into the ducts, and that it is too large to pass freely, then the symptoms of icterus begin to make their appearance. We do not know what it is that produces the attempt to discharge small biliary calculi through the ducts, but it is during this process that the dreadful symptoms of what has been by some called *hepatic colic*, are observed, and, supervening on these, the rapid occurrence of jaundice. Under such circumstance a train of phenomena presents itself, very different from that which characterises the jaundice depending on inflammation of the stomach and duodenum. The patient is suddenly attacked with violent pain in the epigastrium and right hypochondrium. The stomach sympathises, and we have nausea, cardialgia, and vomiting; the patient's sufferings are dreadful, and he refers his pain to the region of the gall-bladder. The abdominal muscles are thrown into spasmodic contractions, there are often convulsions and faintings fits, the extremities are cold, the body is bathed in perspiration, and the pulse is often hard and contracted, but seldom accelerated. This is a very remarkable symptom. Heberden says, that the pulse not being in quickness above the standard of health, with a sudden attack of pain in the region of the epigastrium, are diagnostics of this affection. "I have seen," says he, "a patient in this disease rolling on the floor in a state of violent agony, which I could not allay with nine grains of opium, and yet the pulse was as tranquil as if he was in a calm sleep." I can confirm the truth of this observation from my own experience. Here are the diagnostics: the pain is more intense than that which attends any form of inflammation, and yet the pulse is perfectly quiet; it occurs in persons not generally subject to spasmodic attacks; it is not preceded by constitutional symptoms; and is rapidly followed by jaundice, and absence of bile in the stools. Under these circumstances you may make a certain diagnosis.

Sometimes a tumour is formed in the right hypochondrium, which rises above the edge of the liver, and gives a feeling of distinct fluctuation, marking the situation of the distended gall-bladder. In such cases as these the calculus is in the common duct, and the bile descends into the gall-bladder, from which it cannot escape, thus causing distention of that organ. This may go on until the distention becomes so great as to increase the size of the gall-bladder to such a degree, that, in some cases, it has been known to contain a pint of fluid; and cases have occurred in which it has burst and effused its contents into the peritoneum, causing violent peritonitis and death. This termination, however, is fortunately of very rare occurrence. I believe that some of the cases in which rupture occurred were those in which an emetic was given; and hence it is that many practitioners are afraid to give an emetic where this state of the gall-bladder has been ascertained or is strongly suspected.

I have described the symptoms of this disease as consisting in a sudden and violent attack of pain in the region of the gall-bladder, succeeded sooner or later by the phenomena of jaundice, and in the generality of cases *occurring without fever*. Between these violent attacks the patient sometimes has intervals of

complete ease; at other times a gnawing sensation continues in the original situation of the pain. It is remarkable, however, that a patient may have an interval of perfect ease between the fits, somewhat similar to the calm which occurs during the pains of labour. The occurrence of this cessation of intense suffering has been attributed to the passing of the stone into the duodenum; this, however, is by no means certain. The idea generally entertained upon this matter is, that each attack of pain corresponds with the passage of a stone. How far this notion may be true I cannot decide; but this I shall impress upon your attention, that the mere subsidence of pain is no proof of the removal of the disease, *unless bile is discharged by stool or by vomiting*; but when such a discharge coincides with the cessation of pain, you may be sure that the obstruction has been overcome for the time. I need not remark to you that the smaller the calculus is, the greater the facility with which it will be discharged. You will find in some cases, that the efforts which nature makes to remove one of these concretions are quite unavailing; it lies in the gall-bladder or duct, and there remains impacted. Here its presence sometimes excites inflammation, lymph is thrown out, and the duct becomes permanently closed; in other cases it has been found to make its way into the duodenum by ulcerative absorption, and is thus discharged.

The passage of the biliary calculus does not of itself necessarily imply the occurrence of jaundice; if it passes without difficulty there is none; if it happens to become impacted, then jaundice is sure to follow. It is a curious fact, that of this form of jaundice, cases have occurred in which the flow of bile into the digestive tube has been obstructed for more than a year, and yet a recovery took place.

Permit me now to rehearse the diagnosis of jaundice from biliary calculi. Sudden and violent pain in the region of the gall-ducts, increased by pressure, but generally unaccompanied by acceleration of pulse or fever, coming on in a person not subject to spasmodic attacks, and speedily followed by jaundice. This is the diagnosis. In most of the cases described in books, and, I believe, in the majority of instances, you will find the disease to exist without febrile symptoms; but it is also true that it may be complicated with febrile disturbance, and under such circumstances you should be apprehensive of inflammation in the biliary ducts or duodenum. The importance of this will appear when you come to consider the treatment.—*Ibid.*

12. *Spasmodic Jaundice.* By WILLIAM STOKES, M. D.—This form of the disease occurs independent of inflammation of the stomach or duodenum, and independent of disease of the ileum, brain, or liver. It appears to be an essentially spasmodic disease, but the situation of the spasm has not as yet been accurately determined. It is supposed to exist either in the gall-bladder, or in the biliary ducts, or in the duodenum. If the biliary ducts and gall-bladder do not possess muscular fibres, we must place it in the duodenum; but whatever may be its seat, it presents the characters of a spasmodic disease. It seems to be excited by the same cause, and yields to the same treatment as other spasmodic affections. It generally occurs in hysterical females, and in hypochondriac and nervous persons, and disappears under treatment calculated to allay nervous excitement. Its exciting causes seem to be chiefly sudden and violent mental emotions, or the taking of a quantity of indigestible food; and it frequently terminates by the discharge of flatus upwards and downwards. It resembles, in a certain extent, the last mentioned form of jaundice, but differs in two particulars; first, the pain is relieved by pressure, which generally increases it in the former species. Dr. Pemberton, in his *Treatise on the Diseases of the Abdominal Viscera*, dwells strongly on this point. The second peculiarity is, that in this disease the attack is more sudden. In the case of jaundice from gall-stones, the patient has some degree of pain and uneasiness before the violent symptoms appear; but in this form they exhibit themselves in a sudden and unexpected manner. The disease too is accompanied with hysterical or convul-

sive symptoms, and there is sometimes a copious flow of limpid urine. All these circumstances are important in forming a correct diagnosis.

The best treatment for this spasmodic jaundice is, after acting on the bowels by warm purgatives, to use fetid enemata, and prescribe a mixture composed of ether, castor, and ammoniated tincture of valerian and opium, which are of the greatest use when the bowels have been opened. In this form, as well as that which we have been lately considering, the fact is, that if you expect any good from opium, you must not give it until the bowels have been opened. Opium and antispasmodics have, I am convinced, often lost their character for utility, from being given at a time when the exciting causes of disease are still present in full energy; and the failure of these powerful auxiliaries is to be attributed to the neglect of proper measures for reducing intense irritation. In the spasmodic jaundice, tobacco injections would be likely to produce beneficial effects. Generally speaking, however, you will not find it necessary to have recourse to such a vigorous remedy, as the disease is most commonly observed in delicate females, and yields readily to milder treatment. Indeed, it will often disappear spontaneously, and without any apparent cause.—*Ibid.*

13. *On the Discharge of Fatty Matters from the Bowels.* By WILLIAM STOKES, M. D.—In the last volume of the Medico-Chirurgical Transactions, a great mass of interesting matter has been published on this subject by Dr. Bright, Dr. Elliotson, and Mr. Lloyd. I shall give you a short analysis of these papers; and I wish to impress this upon your recollection, that when you go into practice, the study of this affection would form a subject worthy of your investigation; and that any attempt on your part to clear up the difficulties which complicate this singular form of disease will be advantageous to the cause of science.

Dr. Bright gives three interesting cases of this disease. In these the discharge was in the form of oil or semi-concrete matter,—it floated on the top of the fæces, and had a fetid odour. There was also in these three cases a remarkable similarity in the pathological phenomena. The first case exhibited symptoms of jaundice, diabetes, enlarged liver, and discharge of fatty matter: on dissection the liver, pancreas, and duodenum were found diseased. The second presented symptoms of jaundice and disease of the liver, in addition to the fatty discharge: on dissection the liver was found healthy, but there was a similarly diseased condition of the duodenum and pancreas; there was malignant disease in both. Nearly the same symptoms were observed in the third case, and after death, disease was found in the pancreas, small intestine, and the pylorus was in a state of extensive ulceration. In all there was chronic disease of the pancreas and duodenum terminating in jaundice, from obstruction of the gall duct, and accompanied by discharge of fatty matter from the bowels. Here are three cases, in which there is an extraordinary similarity in the symptoms and pathological appearances. Dr. Bright is inclined to think that these discharges may be connected with disease of the pylorus and duodenum, but particularly with malignant affections of the pancreas, and gives the particulars of some cases in which disease of the pancreas was suspected, and in which, from the absence of this symptom, he was induced to give a contrary opinion, which, on dissection, turned out to be correct.

Mr. Lloyd's case resembles those detailed by Dr. Bright, inasmuch as it presented the phenomena of jaundice with obstruction of the gall ducts, disease of the head of the pancreas, and contraction of the duodenum. So that you see we have here four cases in which there was disease of the duodenum and disease of the pancreas, together with the occurrence of jaundice. I may, however, mention one fact, which you should be acquainted with; in Mr. Lloyd's case the pancreatic duct was found to be obstructed by calculi.

Dr. Elliotson commences his paper by alluding to that peculiar substance called ambergris, which is frequently washed ashore by the tide in several countries, and which is supposed to be a morbid production from the intestinal canal of the *Physeter Macrocephalus*, or spermaceti whale. The quantity found

in the intestinal canal of this animal is said to be enormous, and instances are mentioned, in which this substance was found to amount to 182 lbs. in the body of one of these animals. Dr. Elliotson proceeds to give cases from the records of medicine and from his own experience, in which a fatty discharge took place in the human subject. Of this he quotes cases from Mællenbrochus and Mæbius in the Ephemerides, but one in particular from the works of Fabricius Hildanus, which I shall briefly recount. "A pious matron of Hilden had been for a long time subject to severe pain in the stomach, which became at length much worse, when one day the pain extended all over the abdomen, and after very severe pain and suffering, she discharged about three pounds of fat, which was of a pure quality, had no smell, and was preserved by her for many years." This woman recovered perfectly. Dr. Scott, of Howick, mentions the case of a servant girl, who had been treated with purgatives and injections, under the supposition that her disease was colic, and who, after two or three day's suffering, discharged a quantity of fatty substances, about the size of nuts, beans, and peas, which burned like fat when thrown into the fire; this patient also recovered. Dr. Babington gives another case, which had been mentioned to him by Sir E. Home, in which we find that a lady, who had been suffering, as it was supposed, from gall-stones, happening to take castor-oil draughts to open her bowels, passed a quantity of fatty matter. Another case is detailed by Mr. Howship, where a lady who had been attacked with pain, jaundice, and fever, passed a quantity of this substance with the subsidence of those symptoms. The fatty matter in this case was discharged after the lady had taken a pint of olive oil upon the recommendation of Dr. Simpson, of New Malton. Dr. Turner, of St. Thomas's Hospital, mentions the case of a female who laboured under an hysterical distention of the belly, and who passed quantities of this substance, specimens of which are preserved in the Hunterian Museum.

Sometimes these fatty discharges are found in the concrete, sometimes in the semi-fluid form. Dr. Elliotson mentions the case of a patient who had phthisis, diabetes, and discharge of fatty matter; thus he was at the same time passing fatty substance, large quantities of saccharine urine, and spitting up pus and softened tubercular matter. Between all these and the agonizing pain which he suffered, he became in a short time completely exhausted and sank rapidly. The fatty matter discharged in this case was shown to Dr. Prout and Mr. Faraday, and Dr. Prout stated he could not distinguish it from human fat when heated. Tulpus is quoted by Dr. Elliotson as relating a case where *fat was discharged from the bowels and bladder*. Here is the quotation:—"But what do we say of Margaret Appelmania, an innkeeper, who, in her 70th year, passed precisely the same fat, both from the intestines and the bladder, and likewise without fever, emaciation, or colliquative excretion. Towards the close of the disease, however, she did become feverish, and in consequence, so emaciated, that death found her little else than a juiceless dried up corpse." A similar case to this was communicated by Mr. Pearson to Dr. Elliotson. The symptoms were suppression of the biliary secretion and a copious discharge of *oil from the bowels and bladder*, which, it is stated, formed good soap when mixed with alkali. Dr. Prout has observed fatty matter passed with the urine, and considers this symptom as an indication of the probable supervention of malignant disease of the kidneys and bladder. The last case is from the *Annali Universali*, which is quoted by Dr. Johnson in the Medico-Chirurgical Review for July. In this case the patient, after fasting for a considerable time, took a quantity of indigestible food. On the evening of the same day he had an attack of vomiting: at first blood was thrown up, and then he ejected this fatty substance to the enormous amount of thirty pounds. There was, in this instance, a sudden and extraordinary emaciation, the patient was so reduced in the space of a few hours, that the skin hung in loose folds about him. He recovered in twenty days, but with great loss of bulk.

Let us inquire now what is the nature of this symptom. Is this fatty matter a morbid secretion from the liver, from the pancreas, from the mucous mem-

brane of the stomach, or from the intestines? There are facts to show, that in certain cases this disease cannot be explained by a reference to any of these circumstances. It seems plain, too, that Dr. Bright's suggestion of referring it to malignant disease of the duodenum and pancreas, and the diagnosis which he would seem to found upon it, cannot stand here; for the symptom upon which he attempts to establish a diagnosis—a discharge of fatty matter—occurs in persons who have recovered from the disease. We cannot suppose that they have been labouring under malignant disease of the duodenum and pancreas when they have recovered; and that a recovery may take place is proved by Dr. Elliotson's cases. It is quite probable, however, that if the irritation, or whatever it be that produces this discharge, should continue, it may bring on fungoid and malignant disease; but that the discharge of fatty matter is significant of the actual existence of such a condition is not borne out by these facts. Well, are we to look upon this discharge as a secretion from the liver? I think we cannot, because we have seen that in Dr. Bright's three cases the biliary ducts was obstructed by disease of the duodenum and pancreas. I may mention, too, that in some cases, where a dissection was made, the liver was found perfectly healthy, and the gall-bladder in its normal condition, full of pure bile. Taking this and the foregoing fact into consideration, we have proofs that this fatty substance, in some cases at least, cannot come from the liver. Does it proceed from the pancreas? It would more naturally come from the liver than the pancreas, for the liver does actually secrete a certain quantity of fatty matter; but there is no substance of this kind found in the secretion of the pancreas, which is considered to bear a strong analogy to that of the salivary glands. Besides, in the case mentioned by Mr. Lloyd, where the duct of the pancreas was obstructed by calculous secretions, this fatty matter has been discharged; and hence we cannot, I think, refer it to the pancreas. Whence, then, does it come? Is it a secretion from the surface of the intestines? This is a question which it is hard to determine. We do not yet know, nor have we ever met with that state in which lesion of structure in the mucous membrane of the intestinal canal has been followed by a discharge of fatty matter. We have discharges of serum, lymph, blood, and pus, from the surface of the intestines, according to the nature of the disease; but we know of no pathological condition as the result of which fatty matter may be produced. Again; cases of every known form of disease in the liver, pancreas, and intestinal canals, occur without this discharge at all. In the present state of medicine, the probability is, that this discharge is the result of a sort of metastasis of the secretion of fat from the other parts of the body, in which it is usually deposited, to the surface of the digestive tube, where it is poured out somewhat in the same way as in cholera; the fluids of the body are rapidly absorbed and eliminated by the intestinal canal. This supposition, without attempting to bring it forward as the true solution, furnishes us with the best explanation of the case. In the case of the patient who discharged this substance by stool, and with the urine, the emaciation came on rapidly, as if all the fat of the body had been absorbed and carried out of the system; here, too, the fat was discharged from another mucous surface. In the other remarkable case, where a vast quantity of this substance was thrown up by vomiting, the emaciation was so great, that the patient's skin hung in loose folds about him. When we reflect, too, that there is no recognised disease of the intestines, liver, or pancreas, to which this discharge can be referred, we cannot help believing that it is the result of a metastasis in the secretion of fat.

The next point in this matter which we have to consider is, what is the best mode of treatment. This question, I believe, cannot be answered at present; nor can our practice be any thing but empirical until we have more light thrown upon the subject. With a view to increasing our knowledge, I beg of you to make this disease the subject of your practical investigations, and to have a look out for this discharge, because I believe it often occurs unnoticed, from our neglecting to inspect the evacuations.—*Ibid*, March 29th, 1834.

14. *Microscopical Experiments on Inflammation.*—From the result of the experiments of Dr. C. F. Koch, and others upon the swimming bladder in frogs, it appears, first, that on the application of any irritant, a sensible acceleration in the movement of the blood, which circulates in this membrane and at the same time in the capillaries of the part affected, is perceived. 2d. The movement subsides more or less promptly, this subsidence being particularly apparent after the action of energetic excitants, at which time the globules of blood are nearly in contact. 3d. This movement of the globules is uniform in all the capillaries, save in the vicinity of large arteries, where, in consequence of the pulsation, there is an oscillation observable in them. 4th. Some isolated globules at first attach themselves to the walls of the vessels and cease to move; by degrees these globules become more numerous, form an opaque brown agglomeration, in which we can no longer recognise their form; insensibly the capillary vessels dilate in proportion, and sometimes acquire even double their volume. 5th. The number of the globules become opaque and diminish in quantity, because they are dissolved in the serum, which they render of a red and transparent colour. 6th. In the neighbourhood of these vessels in which the blood has no longer any movement, we observe the different phenomena which are noticed in the three first experiments: at first, in the parts the nearest to these vessels the phenomena seen in the third experiment are observable; then, in the most remote parts, those of the second, and afterwards those of the first, conclusion are seen. 7th. The capillaries in which the passage of the globules is thus arrested, and in which the calibre is much dilated, return more or less quickly to their normal state. 8th. Incisions and punctures determine the stoppage and the dissolution of these globules in the serum. 9th. When the sanguineous globules are agglomerated and their motion is diminished, quick sharp movements or any other irritant, as that which alcohol, æther, or electricity can produce, applied to the thigh of an animal, will reëstablish for an instant the natural motion in the progression of the globules; but if this inflammation be slight, the globules soon return to their previous state. In general, the impression of a new excitant exasperates the inflammatory reaction. 10th. The stoppage of the globules of the blood is the more prompt the more active the stimulus is. Their collection into a mass is thus in proportion to the dilatation of the capillaries. 11th. In severe and prolonged inflammatory affections the small arteries and veins are in the same condition as the capillary vessels.—*Ibid*, from *Meckel's Arch. für Anatomie und Physiologie*.

15. *Hepatitis.* By WILLIAM STOKES, M. D.—It is of great importance to distinguish between acute and chronic inflammation of the liver, for this reason;—acute hepatitis, implies something specific, an organic change, the nature of which is well known and accurately defined; but chronic hepatitis implies nothing of this certainty of the nature of organic change; inasmuch as there is no single one of the recognised disorganizations of the liver, which may not, and have not occurred, with chronic hepatitis as an exciting cause, or a prominent symptom. When we speak of acute hepatic inflammation, we speak of a disease of which the structural lesions are sufficiently understood; but when we treat of chronic hepatitis, we treat of a disease in which there may be a great variety of organic changes. Chronic irritation of the liver may in one patient be followed by development of hydatids; in another by cancer, or tubercle; in a third by hypertrophy of one or both of its elementary tissues; in a fourth by atrophy; and in a fifth by abscess; so that under the chronic form of hepatitis we may have many different lesions comprised. Under the acute form we have only vascularity, softening, yellow degeneration, and suppuration. These, which are the ordinary results of acute hepatic inflammation, are the same as the results of active inflammation of other parenchymatous organs.

It is an interesting fact, and connected with the predisposition to acute diseases of the abdominal viscera in warm climates, that acute hepatitis is much

more prevalent in those countries than it is here, and this is particularly true with respect to the East Indies. You recollect in one of my lectures, I alluded to the greater susceptibility to disease, the extraordinary nervous excitability of the digestive mucous membrane in warm latitudes, and hence that a large proportion of the diseases of those climates was characterized by the predominance of inflammation in the stomach and intestines. The same thing occurs with respect to the organs which are connected with the digestive tube, and hence it is that diseases of the liver and spleen are so frequently met with between the tropics. A very remarkable fact, bearing on this point, has been mentioned to me by Staff-Surgeon Blest. He states that, in the East Indies, hepatic diseases in animals is no unusual occurrence; that *animals brought to India from more temperate climates are peculiarly subject to it*, and that in them it is a common cause of death. He has seen many cases of hepatic abscess in dromedaries and horses under these circumstances; a fact of great interest when considered with the liability to *tubercle* in animals brought from *warm climates* to these countries. In these countries acute hepatitis in its highest degree is a rare disease; in fact so rare, that it is only in our own time that any thing like a series of cases, by which you could compare the disease in these countries with a similar affection in others, have been published. A series of cases by Louis, and another by Dr. Graves and myself, published some time since, are all that we have on the subject. It is somewhat extraordinary that a sort of epidemic tendency to acute hepatic inflammation and the formation of abscess occurred in these countries about the middle of the year 1828. Up to this period, abscess of the liver was looked upon as a very rare disease in Ireland; a case of it was met with in hospital once perhaps in twelve months or two years; but at the period to which I allude, almost every great hospital in Dublin had several cases, and in the Meath alone we had a great number, out of which seven or eight proved fatal.

We have now to consider this acute inflammation of the liver;—and first, with respect to the symptoms. Were I lecturing on pathology merely, I would commence with the organic changes; but as I have chiefly kept in view, during my present course, the practice of medicine, I shall begin by detailing the symptoms. You will get a good idea of the symptoms of acute hepatic inflammation by dividing them into local and general; by doing this you will simplify the matter and acquire accurate and defined notions of the disease. Now, the local symptoms are, pain in the region of the liver, tenderness over the affected organ, and a degree of tumefaction perceptible to the touch; pain, tenderness, swelling,—here are the local symptoms. What are the general? Inflammatory fever and lesion of the digestive function; and in addition to this, if the case be severe, you have functional derangement of the respiratory and cerebral systems. You have then, in a case of acute hepatitis, the general symptoms of inflammatory fever with lesion of the digestive function, and if the case be severe, of the respiratory and even cerebral systems, the local symptoms, being pain, tenderness, and tumefaction.

Now, with respect to the character of the fever which accompanies this disease, it is in all cases nearly the same, and here we come to an interesting and curious fact. You recollect, that in speaking of gastro-enteric inflammation, I alluded to the nature of the accompanying fever, and stated that it was, (commonly,) of a low character, and that there were no local inflammations in which the fever was so often typhoid as in the affection of the gastro-intestinal surface. This, I believe, has been one great cause of the ignorance of medical practitioners with respect to gastric and enteric inflammations; they have been most commonly looked upon as cases of typhus and treated accordingly. In acute hepatitis, however, we do not observe this typhoid prostration. Though closely connected with the gastro-intestinal system, the liver does not in its acute inflammatory state, produce the same manifest depression of the vital powers. On the contrary we have in the early period of the disease in this country, high inflammatory fever, hot skin, and full bounding pulse; a state in

which few would be afraid to employ the lancet with boldness. Patients labouring under acute inflammation of the liver generally have high sympathetic fever, a full, strong, and accelerated pulse, with the local symptoms above described, and, in addition to these, we frequently observe bilious vomitings, considerable thirst, derangement of the bowels, and scanty high-coloured urine. The tumefaction is more or less evident, and when this is accompanied by severe pain, there is considerable difficulty of breathing, a circumstance which sometimes occasions this disease to be mistaken for pleurisy. There are two remarks to be made on this subject. In the first place it sometimes happens that acute inflammation of the liver and of the lower part of the lung occur at the same time, particularly where inflammation attacks the diaphragmatic surface of the liver. Here you frequently have an extension of the inflammatory process to the corresponding surface of the pleura, or the two diseases coëxist from the first. Under such circumstances disputes as to which organ is engaged are often unnecessary. Again, in the early period, and when the attack is acute, the diagnosis of inflammation of the diaphragmatic surface of the liver or pleura, is comparatively of little consequence, as both demand the use of calomel and opium, leeches and the lancet; and in the early stages at least, both are amenable to the same treatment. But it is not so in the chronic stage of either. Here the diagnosis is of great importance; and when I come to treat of pleuritis I shall draw your attention to some researches of mine on this subject, which I hope have set this question at rest.

The pain which accompanies acute hepatitis varies much in situation. Sometimes it is felt in the shoulders, sometimes under the short ribs, sometimes in the loins, and frequently in the epigastrium. You have all heard of pain at the top of the shoulder as a common symptom of liver disease, in fact, so common as to be looked upon by some as a pathognomonic symptom. I believe that a great deal too much stress has been laid on this circumstance. It is now discovered, that so far from being a constant, or even a common symptom, it is one which is of exceedingly rare occurrence. I have never seen a case of acute hepatitis with pain in the shoulder; I have sometimes observed it in chronic, but never, to my recollection in acute cases. Andral states, that it is very seldom met with; Dr. Mackintosh says the same, and, if I recollect aright, looks upon it as a symptom not worth inquiring about. Now, I have seen some medical men who considered this pain in the shoulder as a diagnostic of such value, that if it happened to be absent they concluded there was no hepatic disease. The fact is that it is any thing but constant. You may have it in some cases, particularly of chronic hepatitis, and not of others; besides it frequently depends upon other causes—for instance, upon pneumonia of the top of the right lung, or it may be caused by incipient phthisis, aneurism of the arteria innominata, or right subclavian artery, and other diseases. It is of very little consequence whether it be absent or present; and the only reason while I dwell upon it is, to show you its real value as a symptom.

There is one remarkable circumstance connected with the pain of acute hepatitis. In one case, you will find that the pain is very acute and constant, in another, that little or none is felt; and when you come to investigate the cause of this after death, it generally happens, that in cases where the pain was violent the inflammation existed on the surface of the liver, and in those where little suffering was experienced, deep in the substance of that organ. This is a curious fact; but it may be looked upon as an illustration of a general law, *that if we consider inflammatory affections of the solid viscera, we shall find that the more superficial the inflammation, the more painful it is; and, on the other hand, the more deep-seated it is, the more is it latent, so far as pain is concerned.* Thus: if you take a case of inflammation of the substance or central parts of the brain, you will find that the disease is to be recognised often not by pain, but by the lesions of the sentient and locomotive powers; whereas, in inflammations of the membranes, on the surface of the same organ, one of the most prominent symptoms is agonizing head-ache. In the next place, go to the lung,

—take a case of deep-seated pneumonia, and contrast its almost painless character with the lancinating torture of an acute pleuro-pneumony. In pneumonia the pain is dull and scarcely complained of; but pleuritis, unaccompanied by acute suffering, is extremely rare; in fact, where you have the signs of inflammation of the parenchymatous tissue of the lung, with sharp pains in the chest, you may very safely make the diagnosis of pleuro-pneumony. The same absence of pain is by no means unusual in inflammatory affections of the mucous membrane of the intestines; but if the inflammation should chance to extend to its peritoneal investment, you will have this state rapidly exchanged for one of intense suffering. So it is with respect to the liver: disease on the surface of that organ is attended with severe pain; but enormous destruction of its deep-seated parts may take place, and your patient complain merely of a sense of uneasiness.

A late author on hepatic affections, Dr. Bell, who has written a treatise on diseases of India, describes the two forms of acute hepatic inflammation, which are different as to their seat and character. In one of these, which he terms *sero-hepatitis*, the disease is on the surface of the liver; in the other, which he terms *puro-hepatitis*, it exists in the centre. In the sero-hepatitis, he states that the patient is attacked with sudden pain in the region of the liver, and this is so severe that even the weight of the bed-clothes is insupportable; the patient cannot bear to turn or lie on his left side, from the pressure exerted in that position on the inflamed organ. But the deep-seated, or puro-hepatitis, may go on in such a latent manner that the first symptoms you have of the existence of liver disease are those which mark the occurrence of suppuration. Neither the patient nor his medical attendant will have reason to suspect inflammation of the liver, until the constitutional and local symptoms of the suppurative process direct attention to that organ. Such are the statements of Dr. Bell, which I believe to be correct, as they are supported by the concurrent testimony of many persons who have practised in India, with whom I have conversed on this subject. Mr. Annesly makes the same assertion; and such was our experience in the succession of cases of hepatic abscess which were under treatment in the Meath Hospital during the year 1828.

The next symptom which we have to consider is the tumefaction of the liver, and this, gentlemen, is one of considerable importance. In order, however, to estimate the extent of this tumefaction with any degree of accuracy, you must take the preliminary step, and that is to have the bowels fully evacuated. If the intestines are filled with feculent matter or gas, you cannot do this in a proper manner. A few hours before you make your examination give the patient a full purgative draught, assisted if necessary, by a purgative enema. In this way you empty the belly of collections of feculent matter and æriform fluid, and then you can with certainty and satisfaction ascertain the extent of the swelling. You will then be able, (when your patient is laid in bed,) perhaps to see at once the extent of the tumefaction, particularly where the parietes are not thick or loaded with fat; at all events you will be able to feel it with your hand, and in every case you can ascertain it by mediate percussion with the pleximeter. I do not know any more important adjuvant, in making out the diagnosis of an enlarged liver, than the use of mediate percussion. For instance, suppose you have a patient labouring under acute hepatitis, and that the tenderness of the organ is so great that he cannot allow you to make the requisite degree of pressure to ascertain the extent of the swelling; take the top of your stethoscope, apply it over the region of the liver, make use of light percussion, and you will find, with the greatest accuracy, how far the tumefaction of the liver extends by the dullness of sound heard over the inflamed organ, and exactly limited to it. In this way you can make a most satisfactory examination, without giving your patient any pain, and this is a matter of some importance, as you will meet with many cases in which there is exquisite tenderness, and where the patient will not bear the slightest pressure. I would advise you, therefore, to practice this mode; it gives little or no

pain, it is exceedingly simple, and I have not the slightest doubt of its accuracy. Now, the value of the tumefaction, as a sign of the existence of hepatic inflammation, depends very much on the recent nature of the attack. If a man who was in perfect health a few days back complains of pain in his right side, and has a tumour in that situation, it is to be presumed that this tumour does not depend upon the presence of a collection of fluid in the pleura, and consequently that the tumefaction is not produced by an empyema. Then, if in connexion with fever and pain in the right side you can ascertain the existence of a tumour in the region of the liver, and that it has occurred within a short space of time, you may be pretty sure that it is not an empyema, but an inflamed and enlarged liver.

Jaundice has also been considered as a symptom of hepatic inflammation, but it is one which is by no means constant. Again, you may have most extensive hepatitis, with slight jaundice, and universal and intense jaundice, with trifling or no hepatitis, and what is equally singular, you may have very little perceptible disease of the liver, with scanty secretion of bile; and, on the other hand, the liver may be burrowed with abscesses, and at the same time you find bilious stools, and after death the gall-bladder may be found filled with pure healthy bile. I thought at one time that I could explain the presence or absence of jaundice in cases of hepatitis, by supposing that where it occurred, the jaundice was the result of inflammation of the gastro-duodenal mucous membrane; and to prove this, I drew up a table of cases, of which one-half were complicated with jaundice, and the other not. I found, however, that in a great number of cases, where the tube was free from disease, the hepatitis was complicated with jaundice; and in a similar number of cases, where the same circumstances were observed, the tube was in a state of disease. So that we may have, as you perceive, hepatitis and jaundice with and without disease of the intestinal tube; and whether we look to the cases of hepatic inflammation, unaccompanied or complicated with jaundice, the state of the gastro-intestinal mucous membrane throws as yet no light on the subject. It appears, then, that the occurrence or non-occurrence of gastro-duodenitis does not explain why it is that in one case of hepatic inflammation jaundice is a prominent symptom, and in another is completely absent.

In some cases of acute inflammation of the liver the natural secretion of that organ seems to be totally annihilated. A curious case of this kind occurred under the care of Dr. Graves, in the Meath Hospital, where the slightest trace of bile did not exist in the gall-bladder, which was filled with a transparent mucus. In some instances you will find plenty of bile discharged; in others none; in some patients the stools are observed to be clay-coloured, or very faintly tinged with bile, in others they are healthy, and natural in colour as well as consistence. From our own experience, and from studying the series of cases published by Louis, we have come to the conclusion, that neither the presence nor the absence of bile in the stools affords any positive or useful information as to the different stages of this disease, its progress or termination.

Acute hepatitis terminates in a variety of modes. It may terminate by resolution,—here the organ returns to its former healthy state without any appreciable change of structure or function; it may terminate by the formation of matter,—here we have suppuration and abscess; it may terminate in gangrene; and lastly, it may, without the occurrence of suppuration or gangrene, pass into chronic hepatitis, of which the result may be a variety of morbid changes in the organ itself. When the patient is so fortunate as to meet with the first of these terminations, the fever, pain, and tumefaction gradually disappear. On making an examination with the pleximeter, you will find that part of the belly which was rendered dull by the tumefied liver, becomes clear on percussion; you will find also that the dullness of the lower part of the chest on the right side is removed; the patient can breathe without any difficulty, and lies on the affected side without inconvenience. But when the disease passes into the suppurative stage, the train of phenomena exhibit a marked difference.—*Ibid*, April 5th, 1834.

16. *Hepatic Abscess.* By WILLIAM STOKES, M. D.—In Great Britain, when hepatitis passes into the suppurative stage, we generally observe a change in the constitutional symptoms; the fever, which has been hitherto inflammatory, now becomes hectic. The pulse continues quick, but is diminished in strength and volume; the countenance becomes pale and collapsed, the patient feels languid, restless, and disposed to sweat, and his perspiration has a sour smell. He may also have a miliary eruption, and this continues for some time, with an increase or persistence in the size of the hepatic tumour. When these symptoms appear, there is every probability that matter is forming, or has been already formed. The patient then begins to complain of increased weight in the region of the liver, and in some cases the integuments over that organ are swollen and slightly discoloured. I have observed that in some instances the pain concentrated itself in one point, and in this situation it was afterwards found that abscess had formed. These are the ordinary symptoms which usher in or accompany the suppurative stage of hepatic inflammation; but there are also cases, even in this climate, where this marked change of symptoms is not seen, and where abscess forms rapidly and with symptoms which might be supposed to belong to the early period of the disease. This, however, is particularly true with respect to hepatic abscess in the East Indies.

I believe I mentioned in a former lecture a very curious fact; namely, that it has been often found impossible to salivate persons labouring under hepatic abscess, so that the presence of matter or not in the liver may be determined by the circumstance of the patient being susceptible or not of the full effect of mercury. The liver in this case seems to illustrate that pathological law which I alluded to in speaking of dysentery, that the more intense an inflammation, the greater is the difficulty of producing ptyalism. My friend, Staff-surgeon Marshall, and also Mr. Annesly, agree in stating, that it is exceedingly rare to find a case of hepatic abscess in which the salivary glands have been affected by mercury, and our experience of the disease in this country exactly coincides with their opinion. It has been also observed, that hepatic abscess may form in an insidious and latent manner, when it happens to be complicated with disease of other organs. This affords us an illustration of a law already laid down, that the more complicated an affection is, the more obscure is its character. Again, we may, as the result of acute hepatitis, have one or two vast cavities formed in the substance of the liver, or we may have a number of very small abscesses. I recollect a case which occurred some time ago near this city; the patient exhibited the symptoms, and was, in fact, supposed to labour under intermittent fever. After some time death took place, and on dissection a number of small abscesses were found in the liver, of which, during life, there was no symptom except that which I have just mentioned.

When an hepatic abscess attains a certain magnitude, it has a tendency to burst and discharge its contents. If it escape externally, it makes its way in a great variety of directions, sometimes in the epigastric, sometimes in the hypochondriac, sometimes in the lumbar region; and there are cases on record, in which the matter has burst in the right axilla, by a sinuous passage beneath the integuments of the chest. When it bursts internally, it sometimes perforates the diaphragm, and gets into the cavity of the pleura, or what is more commonly the case, into the substance of the lung. The matter of an hepatic abscess very rarely gets into the pleural sac, and hence we very seldom have an empyema as the result of this occurrence, because the pleura being extremely liable to adhesion as a consequence of the inflammatory process, and the passage of matter being always preceded by inflammation, the opposed surfaces of the pleura become glued together by coagulable lymph, which prevents the hepatic pus from getting into the pleura, at the same time that it favours its passage into the lung. The opening into the lung is one of ordinary occurrence; many cases of it are on record, and serious as the lesion may appear, it is, perhaps, one of the best modes in which hepatic abscess may terminate by internal opening. Many persons have recovered after such a termi-

nation, and I have seen myself three cases in which it was certain, and a fourth in which it was probable, that the matter had been expectorated by the mouth, with a favourable issue. We are, then, as far as the records of medicine and our experience in the Meath Hospital go, warranted in looking on this termination as a favourable one. Hepatic abscess may also open into the pericardium, but this is very rare, there being only one case of this kind, which is given by an American author. It may open into various parts of the intestinal canal, the stomach, duodenum, and colon; it may also discharge its contents into the right kidney, into the vena cava, or into the peritoneum, and thus cause violent peritonitis and death.

The diagnosis of these different openings of an hepatic abscess is easy, and founded on the same principle, the occurrence of new and extraordinary symptoms connected with the adjacent viscera which were not before diseased,—symptoms of a sudden discharge of pus from or into these organs. Suppose you have a case of hepatic abscess, and that during the progress of the disease the patient has sudden and enormous expectoration of purulent matter, without any preceding signs of inflammation of the lung, it is probable that the abscess has opened into the lung; or suppose that during an attack of acute hepatic disease, your patient is all at once seized with nausea, and vomits a quantity of purulent matter, and immediately after this you perceive that the tumefaction of the liver subsides. Here the matter has been discharged into the stomach, in other cases you have it discharged into the duodenum or colon. Again, you may have instances where the matter gets into the peritoneum; here you may observe the occurrence of rapid peritonitis. So that in all cases of this kind, the diagnosis is founded on the same principle, *the occurrence of discharge of pus from or into organs which previously had been considered to be in a healthy state, and this coinciding with a subsidence of the original tumour.*

In persons, who under such circumstances recover, it is natural to expect that cicatrizations should exist in the liver. Louis states that he has never seen this; with respect to our cases of hepatitis, we can only say that the fatality of the disease has afforded us no opportunity of investigating this point of morbid anatomy. Mr. Annesly, however, in his work on the diseases of India, has given drawings exhibiting this appearance. I recollect one case of a man in the Meath Hospital, who had been a soldier in the East India Company's service, and had been treated for liver disease; this man died of phthisis, and on dissection the surface of the right lobe of the liver was found puckered, forming a hollow with a cartilaginous basis, strongly resembling what we might suppose to be the cicatrix of an abscess.

When we consider the various internal openings of an hepatic abscess, we find that they admit of being divided into two classes; first, those in which the matter is effused into cavities having a communication with the exterior of the body, as the lung, digestive tube, and kidney. Here, in addition to the symptoms already alluded to, we have a sudden discharge of pus from the stomach or bowels, from the lungs, or by the urinary passages. But we may also have the matter discharged into shut cavities having no external communication, as where the contents of the abscess open into the peritoneum, pleura, or pericardium. You will readily perceive, that of these two classes of openings, those in which the matter escapes into cavities having no communication with the exterior are the most unfavourable. The confined pus excites violent and generally fatal inflammation, and we have a dangerous empyema, a rapid peritoneal inflammation, or intense pericarditis.

I stated, that of the internal openings of an hepatic abscess, one of the most favourable is that in which the matter is discharged into the right lung, and I described briefly the mechanism of this curious process. We are warranted, I think, in declaring this to be a fortunate termination, because there are many instances on record of persons having recovered under such circumstances. A very near relative of mine presented an example of this. He was attacked with symptoms of acute hepatitis, for which he was attended by some of the

most eminent physicians in Dublin. His treatment was bold and vigorous; he had free bleeding, both general and local, mercury, and every other means calculated to remove inflammation, but all proved ineffectual. His pulse became rapid; he began to sweat; the hepatic tumour increased in size, and presented a distinct sense of fluctuation; there could be no doubt of the existence of suppuration in the substance of the liver. One morning he was suddenly seized with a violent fit of coughing, and during the course of the day expectorated more than a large tea-cupful of pus; towards evening this increased, and on examination it was found that the tumour was remarkably diminished. The expectoration continued during the whole night, and in the morning it was observed that there was scarcely any appearance of the hepatic swelling. It was singular, and tends to confirm the idea that the matter had been discharged into the lung, that in the erect position, this gentleman had scarcely any expectoration, but in the horizontal, it was always extremely copious; a circumstance which you can easily understand by considering that in the recumbent posture the purulent matter would find a more easy passage into the lung. In this case, it would appear that the communication between the liver and lung was very free, for I remember that on one occasion by making pressure over the liver, he said I was forcing the matter into his chest, and the pressure was followed by an instantaneous and copious expectoration. This frequently occurred. A medical friend of mine, residing in Dublin, mentioned to me some time since the case of a large robust drayman, addicted to whiskey drinking, whom he attended for an attack of acute hepatitis. At a time when the liver was very much increased in size, and well-marked symptoms of suppuration present, he observed that sudden expectoration of pus took place, which continued for several days, with manifest subsidence of the hepatic tumour and complete recovery. Three cases of this kind came under my notice in the Meath Hospital. One of the patients had symptoms such as I have before described as exhibiting a striking similarity to yellow fever, from which he recovered, and was discharged, with no other remarkable symptoms but quick pulse. Shortly afterwards he returned, complaining of pain in the right hypochondrium, with rapid pulse, profuse night sweats, and a slight cough. At first his appearance struck me as being characteristic of phthisis, and under this impression I repeatedly examined the chest by the stethoscope and percussion, but could not detect any lesion. The man had only a slight cough, and this was totally insufficient to account for his symptoms. The nature of the case was soon manifest: one morning the patient stated that he felt as if something had given way in his chest during the night, and he was from that time expectorating *large quantities* of purulent matter. On examining the lower portion of the left side, I found that it sounded completely dull on percussion, and that the physical signs of an accumulation of fluid in the bronchial tubes were extremely distinct. That this dullness was the result of the effusion in question is proved by the previously healthy state of the lung. The very day before I had carefully examined this part of the chest, and found it quite healthy. There was not the slightest resonance of voice in this portion after the accident, because the tubes were so completely filled; so that in this case the return to health was accompanied by *increase of broncophonia*, a fact that sets the question of the nature of the accident at rest. It may appear strange that in this case the puriform matter entered the left lung instead of the right; but this is sometimes the case, particularly when the abscess forms in the left lobe of the liver.—*Ibid.*

17. *Termination of Hepatic Inflammation in Gangrene.* By WILLIAM STOKES, M. D.—It is now agreed, that this is one of the rarest terminations of hepatitis we can meet with; in fact, that there is hardly any organic disease which so seldom occurs. Mr. Annesley states, that in all his dissections, (and these were very numerous,) he never met with a case of gangrene of the liver. Andral, who has examined some thousands of bodies, has only met with a single case; this, with another which was under the care of Dr. Graves, and appears to

have been a genuine example of mortification of the liver, are almost the only cases of which I have any distinct recollection. The case under Dr. Graves was that of a patient in Sir Patrick Dun's Hospital, who laboured under chronic inflammation of the liver, with ascites, jaundice, swelling of the lower extremities, and an incapability of lying on the left side. After this man had been about eleven days in the hospital, he began to complain of tenderness and pain of the belly; he was next seized with vomiting, and threw up a large quantity of fetid matter. Soon after this he sank, and on dissection, numerous marks of chronic disease were found in various parts of the substance of the liver; but in the left lobe there was a cavity which was distinctly gangrenous, and had in the centre of it a large mass of slough. I think that there can be no doubt that in this case the disease was actual gangrene of the liver. I think, too, it may be very fairly doubted, whether gangrene of the liver is the result of inflammation, properly so called, in any case; and I believe it would be a very interesting subject for inquiry, to consider how far this disease may be the result of hepatic apoplexy, or effusion of blood into the substance of the liver. This is an accident to which the liver, as well as every other parenchymatous organ is subject; and though effusions of blood into its substance are by no means so common as similar occurrences in the brain and lungs, still it does not enjoy any thing like immunity from such lesions. We have good reason to believe, that in many cases, blood effused into the substance of parenchymatous organs may, under certain circumstances, either undergo putrefactive decomposition and form a gangrenous abscess, or that, although no longer circulating in its vessels, and effused into the parenchyma of an organ, it may still retain its vitality to a certain extent, and being modified by the powers of life, may give rise to the formation of various morbid products. In this way it is thought that various tumours—cancerous, steatomatous, melanotic, and encephaloid—may originate. I am inclined to think that this sometimes occurs in the brain and lungs, and it is probable that it may happen in the case of the liver also. Further researches, however, are necessary, with respect to the elucidation of this matter, before our opinions on it can possess a higher character than that of verisimilitude.—*Ibid*, April 12th, 1834.

18. *Distended Gall-Bladder*. By W^M. STOKES, M. D.—This may be mistaken for the pointing of an abscess, and an operation be performed, and that this has happened more than once is a positive fact. A distended gall-bladder has been mistaken for the tumour formed by the pointing of an hepatic abscess, an opening has been made into it under this supposition, bile has escaped instead of pus, and this getting into the cavity of the peritonæum, has given rise to rapid and fatal peritonitis. A remarkable case of this kind has been detailed with great candour by the late Mr. Todd, in one of the early numbers of the Dublin Hospital Reports. He was called suddenly to visit a girl, whom on his arrival he found to be in a dying state, labouring under great distention of the belly, almost insensible, moaning constantly with her jaw fixed, and presenting a distinct tumour in the hypochondriac region, which from the history of her case, he was led to consider as an hepatic abscess pointing externally. He divided the integuments and muscles down to the peritonæum, and having introduced a trochar, drew off nearly three pints of bile with apparent relief. Shortly afterwards, violent peritonitis came on, and the patient sank rapidly. After death the liver was found to be healthy, and the tumour to have been formed by a distended gall-bladder of enormous size. From this, after the operation, the bile had escaped into the peritonæum, causing intense and universal peritonitis. In making a diagnosis in such a case as this, every thing will depend upon your knowledge of the history and previous symptoms. The circumstances which produce distention of the gall-bladder, you will find upon examination do not bear any distinct resemblance to those which precede or accompany inflammation of the substance of the liver. We may have it from the obstruction caused by biliary calculi, and here you can make a tolerably sure diagnosis. We may

have it from disease of the duodenum, or of the head of the pancreas, or from the pressure of aneurismal tumours in the vicinity. Abscess of the liver is generally accompanied by symptoms of inflammation of that organ, but distention of the gall-bladder does not present any corresponding train of phenomena. There may be some exceptions to this rule, but in making the diagnosis, we must strike a balance of probabilities. The first part of our diagnosis then is this—the occurrence of a tumour in the hypochondriac region, not preceded or accompanied by any of the symptoms which characterize hepatic inflammation. Another important diagnostic, and which I think will apply in several cases, is this. In a case where abscess has formed in the liver, the fluctuation, which is a sign of the existence of fluid, is often preceded by a condition of the part in which there is no sign of the presence of fluid; we have first induration and swelling, and *then the signs of fluctuation*; but this is not the order of succession in the phenomena which characterize distention of the gall-bladder. In abscess we have a hard tumour which gradually softens; in case of distended gall-bladder, we have the tumour soft and fluctuating from the commencement. If then we have a tumour in the hypochondriac region, not preceded or accompanied by symptoms of hepatic inflammation, accompanied by jaundice, with a sense of fluctuation from the beginning, and unattended by hectic, the chances are indeed very great that it is not an hepatic abscess, but a distended gall-bladder.

You will perhaps be surprised, that in treating of the diagnosis of distended gall-bladder, I do not lay any particular stress upon position. The reason of this is that the situations in which a distended gall-bladder may be felt are extremely various. First, we may have it appearing in different parts of the hypochondrium, under the cartilages of the ribs. In the next place, we may have it between the cartilages of the ribs and the spine of the ileum. It has been observed by Andral in the iliac fossa, and he has seen it in the epigastric region. In a case which occurred in the Meath Hospital, it presented itself in the epigastrium, a little to the right of the mesial line. Again, in severe cases you may have the whole of the liver filled with bile, *and having a distinct fluctuating feel, not produced by the existence of pus in that organ, but from the enlargements of its ducts, which are gorged with bile.* In one case mentioned in the Medico-Chirurgical Transactions, this curious circumstance occurred. So far, then, as diagnosis is concerned, position appears to be of very little consequence; but when we have this, in addition to the other circumstances mentioned, it will tend to give additional certainty to our diagnosis. In all cases on record where there was distended gall-bladder, the patient laboured under jaundice, except in that which I have detailed in the early part of this lecture, but perhaps if our patient had lived longer, he would also have had jaundice.—*Ibid.*

19. *Chronic Hepatitis.* By WILLIAM STOKES, M. D.—You will find a full description of the symptoms of this disease in almost every book on the practice of medicine, and it is unnecessary for me to detain you with details of this kind. If we are to judge from British practice, chronic hepatitis is a very common disease, and if we look to the practice, it is an affection under which half the community labour. I believe, indeed, that the chronic form of this disease is much more frequently observed in this country than the acute, but still I think it is any thing but a disease of universal prevalence.

I shall not, as I said before, take up your time in stating what you will find in any medical work; I shall merely mention, that in chronic hepatitis we have generally derangement of the bowels, chiefly affecting the stomach and upper part of the digestive tube, and in addition to this, we have more or less pain, tenderness, and swelling in the region of the liver, and often dullness of sound over the lower part of the right side. When we meet with this train of phenomena, we say that the patient has the symptoms of chronic hepatitis. But no one under such circumstances could undertake to say whether the patient

will die of hypertrophy or atrophy, of cancer or hydatids, of tubercles, or of fatty discharge, or of any peculiar disease of the liver. There is another point, too, of which I am anxious you should be aware. Chronic hepatitis is a disease which has been, and is frequently confounded with various other affections;—with scirrhus of the pylorus, with chronic disease of the duodenum, with chronic disease of the pleura, and empyema of the right side. There is one circumstance which you should bear in mind when you are in doubt with respect to a chronic hepatitis, that one, two, or three of these affections may occur in connexion with chronic inflammation of the liver. For instance, a patient labouring under chronic hepatitis may have also at the same time empyema and disease of the duodenum. I believe the subject of disease produced, as it is said, by contiguity in separate organs, has not as yet been sufficiently investigated, and that our knowledge on this important point is extremely scanty.—*Ibid*, April 19th, 1834.

20. *Results of a Series of Experiments in Revaccination, performed in the Royal Army of Wirtemberg.* By Dr. HEIM.—The question of the utility of revaccination is now attracting especial attention in Europe, and the materials for settling it are accumulating. In our number for August last, p. 474, et. seq. we presented the result of the revaccination of the Prussian army, and also of the experiments of Dr. Lurott of the Canton Bischwiller, and we shall now offer a condensed summary of the principal statistical and pathological facts collected by Dr. Heim, of Ludwigsburg, Physician to the late Queen of Wirtemberg, who has been officially nominated by the government of that country to superintend the revaccination of the Wirtemberg army. We derive this summary from a paper read to the College of Physicians of London by Dr. G. Gregory, and published in the *London Medical Gazette* of July 12th, 1834.

Prior to the year 1829, it was the custom of the Wirtemberg service to vaccinate all recruits who had neither undergone small-pox nor been vaccinated in early life. A variolous epidemic, which showed itself at Stutgard in 1829, occasioned the issue of a ministerial order, dated March 26th, 1829, directing that henceforward all recruits should be subjected to vaccination who could not show satisfactory *cicatrices* either of small-pox or of the vaccine. In the autumn of 1832, small-pox broke out in the garrison town of Ulm; and, again, a third epidemic occurred at Ludwigsburg in 1833. These repeated visitations of small-pox in the Wirtemberg territories occasioned the issue of another order, dated February 7th, 1833, directing indiscriminate revaccination of all recruits, without reference to vaccine cicatrices. Directions were further given for revaccinating every individual of the two garrisons of Ulm and Ludwigsburg, of whatever age or standing in the army—those being the towns in which the variolous epidemic had displayed itself in the greatest force.

The general results of these very extended trials are given by Dr. Heim in two tables.

Table No. I. gives a general survey of the success attending the revaccination of the entire garrison of Ludwigsburg during the summer of 1833. The garrison consisted of a regiment of artillery, a regiment of infantry, and two regiments of cavalry: total, 1683. Of these there were revaccinated, with the best success, 577, (one-third of the whole)—with modified or partial success, 366—without success, 740. Nearly the whole of the subjects of these experiments were, as might be expected, adults, between 20 and 30 years of age, and of course the greater portion of them had been vaccinated in infancy. 144 only were above or under the ages now specified.

Of the 577 men revaccinated as above stated, with the best success, 293, (more than one-half,) had perfect cicatrices. On the other hand, out of the 740 revaccinated *without* effect, 222 had imperfect scars, and 136 retained no mark whatever of their first but effective vaccination.

Table No. II. presents a general summary of the results of the revaccination

of the *Recruits* of the Royal Army of Wirtemberg, from 1829 to 1833, of which the following appear to be the most important:—

Total numbers upon whom the operation of revaccination was performed	4802
Of them were revaccinated—	
With normal or perfect success	1208
With modified or imperfect success	956
With success, but in a degree not accurately specified	914
Without success	1724
Total	4802

If we deduct from the total number revaccinated, 4802, those in whom the success, though perhaps in the pleurality normal, is yet not pointed out with precision, (914,) the proportion of those revaccinated with good success is 30 per cent.—of those with modified or partial success, 24 per cent.—of those without result, 46 per cent.

The same table presents us with a series of data from which the value of the cicatrix, as a test of constitutional safety, may be inferred.

Of 4111 persons revaccinated, 2193 had normal cicatrices. In 2390 cases the operation produced a certain degree of effect. One-half passed through the second vaccination in a normal manner; the other half imperfectly, and in a modified form. Of the former, or regular revaccinations, (1208 in number,) 664 had perfect cicatrices; that is to say, one-half of those upon whom the process of revaccination produced the most *decided* effects, had scars, from which an *opposite* result might have been anticipated.

The converse of the proposition leads to a like conclusion. As thus:—Of 1722 persons on whom the operation of revaccination produced *no* effect, and in *all* of whom, therefore, good cicatrices might have been expected, 500 had *imperfect* scars, and 259 bore no scars whatever.

Again: of 956 persons in whom, upon being revaccinated, the cow-pock appeared, although in a modified form, 572 bore upon their arms *good* cicatrices, 278 had *imperfect* cicatrices, and 104 had *no* cicatrices whatever.

From these and various other facts Dr. Heim concludes, that the inspection of the scars left by the primary vaccination is devoid of all practical interest: in other words, that no satisfactory conclusion, as to the resusceptibility of the disease or otherwise, can be derived from such a source.

Such are the principal results deducible from the tabular statements transmitted by Dr. Heim. The learned author appends to these certain pathological observations made by himself while superintending, in his official capacity, the revaccination of the garrison of Ludwigsburg, in 1833.

The first, and certainly the most interesting circumstance adverted to, is the effect which the extended system of revaccination pursued by the authorities of Wirtemberg had in checking the variolous epidemic. His words are:—“This powerful revaccination of the men comprising the garrisons, (of Stuttgart, Ulm, and Ludwigsburg,) without reference to the quality of the cicatrices, destroyed the spreading of small-pox among the soldiers.” In another part of the MS. he uses these expressions:—“In this manner the revaccination passed in a few weeks through all the regiments of the garrison, and the spreading of the epidemic small-pox among the military was set real bounds to by it.”

The next circumstance adverted to by Dr. Heim is entirely new to the practitioners of this country, namely, the difference of result according as the propagating lymph was derived from the arm of a child or that of an adult. It has long been known that children are vaccinated most successfully from others of their own age. Dr. Heim's experiments lead him to believe, that *adults* are vaccinated most effectually from the vesicles of *adults*.

His words are these:—

"In the first regiment of cavalry many fruitless, or at least unsatisfactory, trials were made with fresh and good matter taken from the arms of children. At length I made it prosper upon a soldier, in whom fifteen exquisitely perfect pustules were produced. By revaccinating with this *adult lymph*, I succeeded with those in whom vaccination from the arm of the child had *failed*. Even in individuals of a higher class of society, with all favourable qualities for good success, the trial of vaccination from the child's arm frequently failed, while I soon succeeded in it from the arms of adults."

That this was owing to some peculiarity in the law of *adult vaccination*, and was not attributable to any fault in the vaccine matter of the infant, was proved by its *constant* success when infants alone were the subjects of trial.

Further on Dr. Heim thus expresses himself:—

"Of the superior effect of vaccinating from *adults to adults*, I have had experience for the last six years, but the opportunity which has been recently offered of trying it on a large scale, has been rewarded *with the most splendid success*..... My colleagues, (he adds,) of this place, (Ludwigsburg,) have also made the same observations."

In another part of the memoir, while adverting to the employment of adult lymph, to which he attributes the superior efficacy of the revaccinations of 1833, Dr. Heim notices the prejudices that so generally exist in Germany as well as in England, against employing the vaccine matter of adults in propagating the disorder. "This false opinion," he states, "is the more striking, as it is neither defended by obvious reasons, nor confirmed by experience. On the contrary, there are cases known to us where the modified vaccine of revaccinated persons produced the *genuine* vaccine in children not previously vaccinated: nay more, in some instances it took effect upon those I had vaccinated more than once, but without success, using recent lymph from the arms of children."

Having satisfied himself of the truth of his position, that important practical differences do exist between adult and infantile vaccination, Dr. Heim proceeds to reason upon it.

"We might expect," he says, "*à priori*, that the vaccine lymph of adults should be more *energetic* than that of children, for the same reason that we find measles, scarlet fever, and even small-pox itself, to be more *dangerous* in adults than in children." He next throws out the very ingenious hint, that it was to the employment of vaccine matter from the arms of *adults*, that Jenner was indebted for the splendid success which attended all his first trials with the vaccine." Dr. Heim evidently considers this as the chief feature of his memoir, and he invites the attention of physicians to it in an especial manner, as to a subject of great scientific and practical interest.

Dr. Heim supports the doctrine of a gradual return of the vaccine susceptibility in persons even the most effectually vaccinated in early life, but his further speculations on this subject are confused and scarcely intelligible.

Dr. Heim has made no experiments with the variolous contagion, so as to determine positively, whether the susceptibility of small-pox and the resusceptibility of cow-pock acknowledge the same law. This important branch of the subject requiring, on the part of the experimenter, such extreme caution, must be left to be determined by future inquirers. Dr. Heim indulges the notion, that the resusceptibility of small-pox and the vaccine do *not* coincide, but he throws out the suggestion without offering any adequate proofs in its support.

Dr. Heim details a curious case in which small-pox and measles occurred simultaneously, and he seems to hint that there is some sort of analogy in the relations of cow-pock to small-pox, and of small-pox to measles.

21. *Discovery of an Insect in Itch, by Experiments lately made at the Hôpital St. Louis, Paris.* By M. RENUCCI.—The antiquity of the disease vulgarly denoted *the itch*, will not be contested, and nearly of as ancient a date has been the popular opinion that it is accompanied by an insect, to which the appellation *Acarus scabiei* has been given. The popular supposition has always existed,

not so that of the learned; for although at periods it has by some authors been zealously adopted, it has at others been as obstinately repudiated. The existence of the *acarus*, however, as an attendant on the itch, is now placed beyond doubt by late experiments at the *Hôpital St. Louis* in Paris.

Gale, the French word used to express *itch*, is by some derived from the Latin *calus*, but according to a more judicious etymology, it takes its origin from the Latin *galla*, a nut-gall,—a supposition which, if correct, would show the antiquity of the belief that an insect is present in the itch, just as the nut-gall is produced by the *cynips quercusfolii* on the leaves of the *quercus infectoria*. The Arabian physicians, and particularly Avenzoar, firmly believed in the presence of an insect in the itch. It was distinctly described by Moffat, an English author, who wrote in the beginning of the 17th century. Among the Italians, Redi and Bononio have noticed this insect, and the latter author has given a particular description of its physical characters and its habits. After these writers came Linnæus, who confounded it with the mite of cheese. It was subsequently made an object of special research by De Geer, who described it so well, and gave so accurate a drawing of the insect, that it was called the *acarus of De Geer*. M. Latreille has placed it among the genus *sarcopte*.

In 1812 the subject again became a matter of dispute, and a series of experiments were instituted in Paris, the result of which was, that the *acarus* was found, and exhibited to the eyes of both the credulous and the incredulous, and its existence was once more considered an article of medical faith. However, at a subsequent period, M. Lugol, who had for six years taught the existence of the *acarus* in his lectures on diseases of the skin, on being appointed to the *Hôpital St. Louis*, considered it unworthy of an hospital professor to call on his pupil to believe any thing in the absence of ocular demonstration which was within reach. Accordingly, pins, needles, and various probing instruments, together with microscopes, were again in requisition, and employed most assiduously by M. Lugol and his class, but, strange to say, the *acarus*, formerly so complaisant, evaded every research. Other microscopes of greater power were provided, but after several days of scrupulous examination nothing was found.

M. Lugol, from being a firm believer in the existence of the *acarus*, became, from this time, a decided sceptic, and so fully was he convinced of the impossibility of finding this insect, that, in a conversation with M. Alibert, who rather leant to the opposite doctrine, he declared he would give a prize of three hundred francs to the first student who should extract an *acarus* in his presence. This challenge was thrown out in 1828, but not until 1834 was it met. Not that the interval was allowed to pass without repeated attempts to discover the insect. Several students sought for it in vain. M. Gales, the head apothecary at *St. Louis* in 1812, showed what he described as the *acarus*, and wrote a thesis thereon, accompanied by a drawing, but the insect figured by him was recognised to be nothing more than the mite of cheese. Whether he found the real insect or not is a matter of doubt, but no doubt can exist as to the incorrectness of the drawing he has given.

Three days were devoted to a further investigation at the *Hôtel-Dieu*,—a doctor of the faculty of Paris presiding, M. Raspail being present, but the three sittings were unavailing. Some time afterwards M. Memer, a naval surgeon, came to the *Hôpital St. Louis*, and boasted of having found the *acarus*; but what he exhibited was nothing but the mite of flour. Believers in the *acarus* now lost ground, and said little about it, referring to it at all in their lectures only very cautiously. Even the courageous Alibert preferred laying before his class the host of great names in favour of the *acarus*, to declaring to his pupils his own conviction on the subject.

Thus matters stood, when, about the beginning of August last, a girl presented herself at the consultation room of the *Hôpital St. Louis*, to be treated for what she called the itch. Some doubt arising as to the exact nature of the eruption, M. Renucci, an Italian student, offered to remove all difficulty as to

the diagnosis, by ascertaining the presence or absence of the *acarus*, which he said was so commonly found in cases of itch in this country, that the peasants extracted them from each other with pins or needles.

No objection being made to the experiment, M. Renucci examined the girl's hand, and in an instant extracted a small roundish semi-transparent body, of about two-thirds the size of an ordinary cheese mite, and exhibited it in presence of a number of students of the hospital. On being placed on black paper, or on the nail, this whitish speck exhibited the power of locomotion, scampering about with activity, unaware of the noise it might make in the annals of science. On the arrival of M. Alibert, (as it was that professor's morning for receiving patients,) the facts were detailed by M. Gerdy, the *interne*, when M. Alibert ordered a *proces verbal*, or report of the circumstance, to be drawn up and signed by the students present, (thirty in number,) reminding them, at the same time, of the 300 francs offered by M. Lugol.

A short account of the discovery appeared in one of the medical journals, and elicited a reply from M. Lugol, questioning the reality of the occurrence, and treating it as a fresh mystification. But M. Renucci was not to be deterred from pressing his claim to the merit of the "discovery," and, backed by M. Alibert, inserted a rejoinder, offering to extract the *acarus* alive before M. Lugol himself, or the whole faculty.

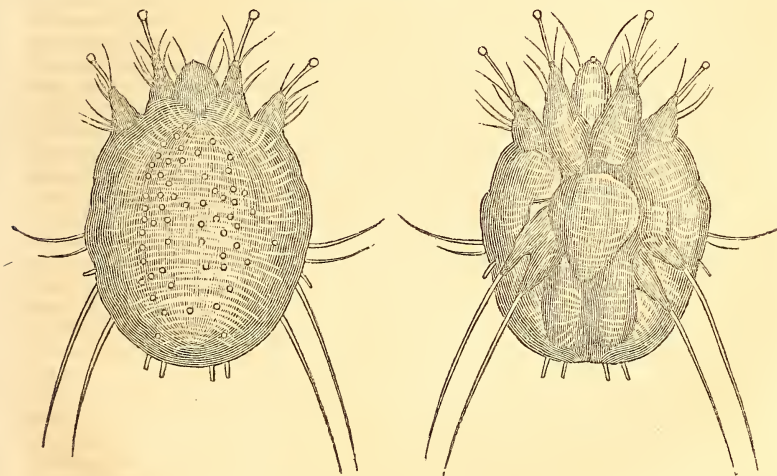
The affair now began to cause some excitement; nothing was talked of, or looked for, in the hospital, but the *acarus*; the wards allotted to itch patients, heretofore so quiet, were now thronged with students and visitors, anxious to discover or view the long-disputed insect. The day appointed for convincing M. Lugol arrived, and with it a number of scientific persons; amongst others was M. Raspail. Several *acari* were extracted, placed under the microscope, and seen as plainly as an insect of that magnitude could be. M. Lugol's doubts vanished before the mass of living evidence, and, addressing M. Renucci, congratulated him upon his success and upon the benefit he had thus conferred upon science, at the same time assuring him that the prize of 300 francs should be forthcoming, as soon as he wished to claim it. Upon this occasion M. Alibert declared that the reward should not be limited to 300 francs, but that he would add a gold medal, bearing the name of the discoverer and the date of the event. Praise is due to M. Alibert for his efforts on this occasion, and his encouragement of M. Renucci, whose exertions would otherwise most probably not have been successfully made. But few insects were found during the first experiments, but, stimulated to perseverance by the persuasions of M. Alibert, the searchers for the *acari* produced them at last *en masse*, and during repeated sittings, and thus forced conviction on unbelievers.

According to M. Renucci, the *acarus*, or *itch ciron*, is never to be found in the vesicle. It appears, however, that M. Gerdy, jr. has in two cases extracted the insect from the vesicle, in which situation it has occasionally but very rarely been found by others. In the great majority of cases the *acarus* is only to be met with in a small epidermic canal, probably excavated by itself, invariably terminated by one of its extremities in the vesicle, either straight or tortuous, and varying in length from one to three lines. The raised epidermis forming the vault of that canal, presents a grayish yellow dull aspect, which is interrupted most generally towards its non-vesicular extremity, by a dull white opaque speck, betraying the position of the insect, and owing the difference of its hue to the same cause. This extra-vesicular position, combined with the minuteness of the insect, partly explains the fruitlessness of past researches. As it seems to be found that temperature exercises much influence upon the activity and bulk of the insect, the season may furnish an additional explanation of the want of success upon former occasions. Such being the remarkable position of the insect, it is only necessary to take a fine needle, and, having previously washed the vicinity of a vesicle, to penetrate the vault of the subdermic groove as delicately as possible, so as to avoid mutilating the little creature which it contains, and, having captured it, to withdraw it, clinging to the point

of the instrument. Place the little shapeless, opaque, whitish body in the field of a strong microscope, and you will be amply gratified by finding this almost imperceptible and inorganic-looking mass start into an insect, having limbs, joints, feelers, &c. We have repeatedly seen and examined the insect by transmitted and reflected light, and can vouch for the following description drawn up by the celebrated Raspail:—

“The *Acarus scabiei*, seen through the microscope, presents the form of a tortoise, a shining surface, more transparent in the centre than at the circumference, of a white opaque colour. Its other shades would appear to be the result of the division of luminous rays passing through the lens. The head, which may be considered as a perfect retracting sucker, is provided at each side with two articulated feet, terminating at the tarsus, in a funnel-shaped prolongation. The insect is armed with four additional feet, longer than the former, but without the funnel-shaped appendage; this articulation is not at the sides, like those of the horse-acarus, but underneath the belly; on the back is perceived a number of eccentric lines at short intervals, and having the appearance of joints; the belly presents several dark-coloured spots; the body and legs seemed furnished with a quantity of hair of unequal length.”

The following engraving presents the *Acarus scabiei*, immensely magnified. The actual size of the insect is about that of the mark which would be left on paper by the gentle insertion of the sharp extremity of the finest needle.



Such is the appearance of the insect as it has been extracted from an immense number of itch patients, (who had not commenced any treatment—a necessary condition,) and as it has been seen and examined by several distinguished medical men in the capital. There is some doubt as to the number of feet upon which the insect moves, some observers noting eight, and others only six, a difference which is attributed by M. Cloquet to the relative age of the insect, and by M. Gales to the difference of sex.

The existence of the acarus is, then, placed beyond doubt, but its relation to scabies is in clouds and darkness. Is it the cause of the vesicle, and if so, how? Is the vesicle caused by the deposition of its eggs, the development of which determines inflammation—or by the deposit of a poison,—by irritation produced by its members,—or by its bite? Or does it show itself in the individual merely in consequence of the attraction produced by the itch matter, or the filth attached to the person?

A delirium of joy at this discovery every day betrays itself in the amphitheatre of the *Hôpital St. Louis*. When it was subsided, a solution of these questions may be effected by careful and continued research. The only rational attempt as yet made towards this solution, is that of Albin Gras, a student at the hospital. This gentleman submitted his arm to a troop of these parasitical insects, and obtained a development of some characteristic vesicles. A subsequent intolerable itching, combined with the external characters, left little doubt as to the power of these insects to communicate the disease. But still the question is not decided, because the matter adhering to the insects may have been the cause of the vesicles, instead of the irritation simply produced by its presence. It has indeed been proposed by one of the professors, (seriously?) to submit the insect to the action of a warm-bath before inserting it under the epidermis, and to pay particular attention to washing, brushing, and drying its feet! The experiments are still in progress.—*Lancet*, October 4th, 1834.

PRACTICE OF MEDICINE.

22. *On the Treatment of Dysentery.* By WILLIAM STOKES, M. D. [Extracted from the Lectures on the Theory and Practice of Medicine delivered in the Medical School, Park street, Dublin.]—The ordinary sporadic dysentery of this country, is, generally speaking, an inflammation of the large intestine. The old doctrine on this subject was, that dysentery was the result of an irritation caused by the presence of scybalæ in the colon, and the indication was to attempt their removal by purgatives. You will find this opinion put forward in many of the older authors, and that the plan of treatment which they recommend is in perfect accordance with their notions of the disease. It is a very curious fact, however, that in this country these hard fecal masses, or scybalæ, are very seldom met with in cases of dysentery. During the epidemic of dysentery, which occurred in Ireland in 1818, a series of clinical investigations was made on an extensive scale by Dr. Cheyne, who at that period had charge of the Hardwicke Hospital; and he states, that, on a strict examination of the discharges in a vast number of cases, no scybalæ could be discovered; and in the sporadic cases, which we receive from time to time in the Meath Hospital, I have never found that the patients passed them. It is a great error to think that dysentery depends on the presence of scybalæ, the notion is now shown to be founded on a false pathology, and the treatment which it inculcates decidedly bad. You will be convinced of the latter when you recollect that the disease is inflammation of the great intestine, that its effect is to throw the muscular fibres of the gut into violent and painful contractions, and that the existing mischief must be therefore greatly increased by the exhibition of strong purgatives. For a knowledge of the true and scientific treatment of this disease, we are indebted to the light which modern pathology has shed upon practical medicine.

We now employ purgatives with extreme caution, we use general or local bleeding, according to the urgency of the case; and we treat the disease as an inflammatory affection of the lower intestine demanding active depletion. All writers are unanimous in recommending the employment of the lancet, in cases of acute inflammation; and acute dysentery is one of those cases, in which general bleeding seems to have the best effect. Dr. Cheyne states, that in the disease the most decided relief resulted from the use of the lancet. He says, that in several cases in which there were excessive pain and tormina, and in which nothing was passed for several days but mucus and blood, as soon as venesection had been performed, the patients became comparatively easy, and passed large quantities of feculent matter. He also found that the blood drawn was buffed and cupped; and states that his experience led him to conclude, that this disease was best treated by the lancet. Dr. Mackintosh, who has had great experience in dysentery, says, that laxatives will act with the best effects, when

blood-letting has been premised. In fact the utility of general bleeding in dysentery is established beyond any possibility of doubt; and those who object to the use of the lancet object to it on theoretical, and not on practical grounds. As a proof of this, you will see a great many cases, in which decided relief is obtained by a natural hæmorrhage from the bowels; and this I think ought to be sufficient to overcome the doubts of those who are sceptical as to the value of general bleeding in acute dysentery.

Next to bleeding, the best thing you can have recourse to is the free application of leeches, a practice not sufficiently appreciated or followed in this country. I would advise you to apply leeches freely, along the course of the colon; and if the tenesmus be constant and distressing, round the anus also. The case, in which the application of leeches round the anus is attended with the greatest relief, is that in which the tormina and tenesmus are excessive, and in which a quantity of blood is found blended with each discharge. After you have applied the leeches, I would strongly recommend you to direct your patient to sit in a hip bath for some time, and you will find that he will experience great relief, because the bath will act as a fomentation, and promote the flow of blood from the leech-bites. I have often seen the application of a dozen leeches round the anus, followed by the hip bath, attended with the most rapid and signal advantage in dysentery.

Many persons are in the habit of giving small doses of some mild saline laxative in this affection; of this practice I cannot speak much from experience, and I think more benefit will be derived from the free use of demulcents, gum-water, whey, barley-water, and linseed tea. But the internal remedies, on which we chiefly rely in the treatment of dysentery, are mercury and opium. Blue pill and Dover's powder are an excellent combination, so are calomel and opium, and you may give either of these remedies alternately with a mild laxative, whenever you are led to suspect an accumulation of fecal matter in the bowels. In very bad cases, it will be necessary to continue the mercury until the mouth is affected; but in the sporadic dysentery of this country you will very seldom be under the necessity of bringing on actual salivation.

There is one point in the treatment of dysentery which it is necessary you should be acquainted with. Sometimes the symptoms steal on gradually, and the patient appears to be in a condition not at all dangerous, when, all at once, the disease explodes with violence, and exhibits an extraordinary intensity; the fever is ardent, the tormina excruciating, the tenesmus constant and harassing, the dejections frequent and blended with lymph and blood. Such an array of threatening symptoms must be met with a corresponding activity. In such a case as this I would bleed, leech, use the hip bath, and give free doses of calomel and opium; and if you were to ask me, to which of the internal remedies used I should attribute the most decided alleviating influence, I should say to the opium. Dr. Cheyne says, "after the lancet, the best remedy I know of is opium." He says further: if another epidemic, similar to that which he witnessed, occurred, he would have no hesitation in giving opium, in four grain doses, in such cases.

There was a very curious circumstance connected with the history of the epidemic dysentery of 1818-19. At one time the deaths happened to be extremely numerous, and every thing which the experience or ingenuity of Dr. Cheyne could suggest failed in arresting the disease, in many cases. An English physician, who happened to be in Dublin at that period, and was in the habit of visiting the hospital, proposed the administration of large doses of cream of tartar, stating that he had tried it on several occasions under similar circumstances, and was convinced of its value. As the cases were not succeeding which had been treated after any of the ordinary modes, Dr. Cheyne consented to the exhibition of the cream of tartar, and allowed the physician to prescribe and administer it himself. Accordingly he proceeded to give it in doses of half an ounce every fourth hour. Its first effect, generally, was to produce violent distress and to aggravate all the symptoms, but, after three or four doses, bi-

lious and feculent stools came away, and the patient experienced the most extraordinary relief. Many cases, which had been considered desperate, improved and recovered, and Dr. Cheyne expresses his conviction, that many persons were saved by this practice, who would have been lost under the ordinary modes of treatment. One of the older German authors has also alluded to this singular efficacy of cream of tartar in the treatment of dysentery; and from the result of Dr. Cheyne's experiments, there can be no doubt that it is entitled to a high rank among the remedies usually employed. In case you should prescribe castor oil as a laxative, it will be necessary to combine it with mucilage of gum arabic and a few drops of laudanum; given alone, it will be likely to prove too irritating, particularly during the acute stage. In the advanced stage much benefit will be derived from a combination of castor oil with tincture of opium and a small quantity of oil of turpentine. This is not at variance with the pathology of the disease, for there is a period in this as well as in every other form of inflammation, when stimulants may be used with benefit.

Such is the treatment of the ordinary forms of acute dysentery; but it may happen that you will be called to a case in which you cannot employ these decided measures; and here I shall mention, that in all local inflammations it is of the utmost importance that you should act with judgment and decision in the commencement. Every hour is precious; a single day is worth much; and if two or three days are allowed to pass, and the treatment is inactive and indecisive, the patient too often sinks into the chronic stage or dies. Whenever you happen to be called to treat a case of acute local inflammation, attempt to cut it short as soon as possible; it is much easier to cure an inflammatory attack in its commencement, than to save the patient from the effects of it in the advanced stage. Now, if you should be called to a case of dysentery of some standing, and on your arrival find the patient lying on his back, his skin of a pale dirty hue, his eyes sunk and without lustre, his extremities cool, and bedewed with a clammy sweat; his pulse small, rapid, and feeble; his thirst ardent; his pains and tormina incessant; and consequently passing from his bowels a quantity of fluid matter, blended with depraved mucus, lymph, and blood, with great irritation about the anus, and if these symptoms have lasted for some days you may be sure there is extensive ulceration of the lining membrane of the large intestine. How are you to act under such circumstances? The patient will not bear bleeding, or perhaps the application of a small number of leeches. Here your sole object must be to support your patient's strength; you must give wine, (if the skin be cool,) strong chicken broth, beef tea, jellies, &c. you must wrap your patient in flannel, and have recourse immediately to anodyne and astringent injections, and you should blister the abdomen, taking care to remove the blister at a proper time, and not leave it on so long as may add to the existing irritation. You may also prescribe the acetate of lead, or the sulphate of zinc with tincture of opium. I have seen several cases of this kind in the Meath Hospital, in which the administration of the sulphate of zinc was attended with good effects. The best mode of using it is to dissolve ten or twelve grains of the sulphate of zinc in six or eight ounces of cinnamon water, with a proportion of laudanum, and direct this quantity to be taken during the twenty-four hours. Dr. Elliotson recommends the sulphate of copper, and you can employ it in combination with opium. In this way, by supporting your patient's strength, keeping him warm, paying attention to the state of his bowels, using counter-irritation, and prescribing astringents combined with opiates, (taking care not to check the discharge too suddenly,) you will often succeed, even in very bad cases. Before I quit this subject I may observe, that Dr. O'Beirne has succeeded in some cases, and in others has given great relief by the use of tobacco injections. You can understand this when you reflect, that tobacco acts powerfully on the general system, and produces effects somewhat analogous to bleeding. Like general bleeding it brings on faintness, vomiting, cold skin, perspirations, and feeble pulse. It is also a powerful antispasmodic, and Dr. O'Beirne states, that its employment has been attended with the best

effects in several very bad cases. I have not tried this remedy myself, but I think it well worthy of a trial in the acute stage of dysentery, when there is room for an antiphlogistic treatment. In the advanced stage, of course, it is inadmissible.—*Lond. Med. and Surg. Journ. March 8th, 1834.*

23. *On Mercurial Action.* By WILLIAM STOKES, M. D.—It is a common idea with respect to the administration of mercury in cases of local inflammation, that if you produce salivation, you do a great deal towards accomplishing a cure, and this is true in most cases. Many persons are of opinion, that it is the ptyalism which carries off the disease, and hence it is that we so often see the principal share of a practitioner's attention directed to produce salivation *at all hazards*. This is the history of the medical treatment ordinarily pursued in warm climates, where such vast quantities of calomel are given. Here the idea seems to be, that the disease is to be subdued by salivation alone, and accordingly the practitioner "throws in" mercury, an expression evidently arising from the enormous quantities given. There are many cases on record, in which eight hundred and even one thousand grains have been given for the cure of a single local inflammation. But it is remarkable, that, in several cases in which vast doses have been given, no ptyalism has been produced, and thus it frequently happens, that the practitioner goes on increasing the quantity, lest he should have failed in consequence of not having given enough. All this practice is wrong, and founded on false notions; and I think that when you come to practice yourselves, you will be inclined to adopt the opinion, that, in cases in which mercury has been employed in the treatment of local inflammation, salivation is to be looked upon more as the result of the relief of inflammation to a certain degree than as its primary cause. For instance, suppose you are called to treat a case of acute enteritis or hepatitis; you give ten grains of calomel two or three times a day, and find that day after day passes without any appearance of salivation. Another practitioner is called in, who bleeds the patient, and this is almost immediately followed by the appearance of salivation and relief. My friend, Staff-Surgeon Marshall, who is intimately conversant with the diseases of India, has informed me, that *he has never known a case in which abscess actually formed in the substance of the liver*, in which salivation could be produced; and that when the patient became salivated, he believed it to be a proof that there was no inflammation of an intense character, or that no abscess had formed. The greater the intensity of the disease, the less was the chance of salivation occurring, so that the salivation in certain cases appears to be the result of the same influence which produces a relief of inflammation, and not the cause of that relief. When, therefore, you have given mercury in free and repeated doses for twenty-four or forty-eight hours, and find no sign of salivation appearing, you should be cautious how you proceed, because in such cases the inflammation may be of that intense character, which will not permit the mouth to be affected. Under such circumstances, the use of mercury, if rashly persevered in, will only aggravate the disease. In many cases of intense pneumonia, you will find that the patient will not be salivated until an advanced period, when, in consequence of the subsidence of intense irritation, the mercury is, as it were, allowed to produce its effect on the salivary glands. You may also frequently observe instances of intervals between the salivation, in which, during the course of an inflammation, the patient's mouth becomes affected by mercury; but if he gets fresh symptoms of the original affection, the salivation disappears, and returns only when the new attack has been overcome by appropriate treatment. I think that, under these circumstances, we are authorized in considering salivation as the effect of a certain degree of reduction of inflammation, and not as its cause. You will see the importance of these observations, when you reflect, in how many cases of local inflammation practitioners are in the habit of trusting to calomel alone; not being aware of the fact, that inflammation of an intense character has a powerful tendency to prevent it from acting on the salivary glands. Be assured of this, that if, in any acute visceral inflammation, after you have

performed the usual depletions, you find an unusual resistance to the action of mercury, you may, on that account, form a more unfavourable prognosis.—*Ibid.*

24. *On Tympanitis.* By WILLIAM STOKES, M. D.—The term tympanitis is limited to effusion of air into the digestive tube, in all parts of which we may find it. We detect it in the stomach under two circumstances; first, as a recent and transient affection, as when it comes on after swallowing indigestible matter; secondly, in a more permanent form, as when it depends upon hysteria, hypochondriasis, or chronic gastritis. It may be also frequently seen in very young children, when there is feverishness with irritation of the digestive system. I recollect a very remarkable case of this kind, in which the distention was so great, and the pressure on the diaphragm so considerable, as to cause displacement of the heart upwards;—this, I believe, has not been mentioned among the causes of displacement of the heart. The symptoms of this affection are sufficiently obvious;—a sense of uneasiness and distention at the region of the stomach; when the effusion is in excess, a distinct tumour can be felt, and the sound on percussion, over the stomach, is like that of a drum. It often happens, also, that when the patient is shaken, a distinct sound of fluctuation is heard, a circumstance which more than once has led to the suspicion of the existence of pneumo-thorax, or empyema. There are also cases on record, in which the distention was so great as to cause rupture of the stomach, and effusion of its contents into the cavity of the peritoneum, causing intense inflammation and rapid death.

The effusion of air into the intestinal tube is extremely common in cases of acute enteric inflammation and gastro-enteritis, after the disease has lasted for a few days, and, as this is a matter of considerable interest, I wish to make a few remarks upon it. It is of importance that you should bear in mind, that this is one of the results of enteric inflammation, because many persons are in the habit of looking upon it, not as a mere symptom of another affection, but as a peculiar form of disease, forgetting that it may occur with, as well as without, inflammation. In consequence of this limited and imperfect view of the subject, they are in the habit of prescribing turpentine as a specific remedy for tympanitis. Now, I can say, that I have seen the most dreadful effects from the administration of turpentine in the tympanitis of acute enteric inflammation. The immediate effect is to produce a rapid diminution of the tympanitic swelling; but this is purchased at too dear a rate; for you will find next day, that there will be a violent exacerbation of the existing symptoms, and the tympanitis becomes worse than before. You should never, therefore, interfere in this way with the tympanitis of acute enteric inflammation, nor should you alter your practice on this account in the slightest degree, except where the tympanitis is so great as to interfere with the due performance of the function of respiration; but, in the advanced stage, after the twelfth or sixteenth day, when the fever has abated and the tongue is moist, I have frequently seen great advantage result from the use of turpentine. *But as long as the condition of your patient admits of antiphlogistic treatment, be assured that the administration of turpentine is hazardous.* When the patient is in a low state, when you can no longer have recourse to bleeding or leeching, when the tympanitis is connected with an asthenic condition of the intestinal mucous membrane, then, and not till then, should you venture on the employment of turpentine. I shall return to this subject when we come to speak of hysteria.

I may mention here, that the occurrence of flatus in the intestines sometimes gives rise to dreadful suffering in that affection which has been termed windy colic. A person in the enjoyment of good health happens to take at his dinner or supper a quantity of indigestible food, he goes to bed without feeling any particular inconvenience, but about the middle of the night he awakes with an attack of pain and tormina, which extend from the hypochondria to the umbilicus. This subsides for a short time, and then returns with violence, and the patient often finds that it is relieved by pressure. In a short time the pains get

worse, and the abdomen begins to swell, sometimes at one point, sometimes at another, as if the air was confined and pent up in particular situations. The patient begins to suffer indescribable anguish, he has great anxiety, extreme prostration of strength, his face is pale, his extremities cold, a cold sweat breaks out all over the body, and he sits bent forwards, with his hands pressed on his stomach to relieve the paroxysms of pain which come on with increasing rapidity. In some cases there is distressing hiccup, in some a large quantity of aqueous urine is passed, in some there are loud borborygmi, and the intestines may become so enormously distended, as to fall rapidly into a state of gangrene. Hippocrates has given a description of one of the forms of this disease, which terminates by the passage of air upwards and downwards, by which the patient obtains relief; this he calls dry cholera. This windy colic is an exceedingly violent disease: one of the first cases of it, which I witnessed, presented such an array of alarming symptoms, that I thought every moment the patient would expire. It is, however, a disease which is generally easily managed if taken in time. One of the first things to be done is to apply heat to the abdomen by anodyne stupes, or warm flannel. Flannels wrung out of a decoction of poppy-heads, as hot as can be borne, will do a great deal of service, and in some cases will give complete relief, when assisted by the use of carminative draughts. But of all the remedies which I have seen, the most efficacious is an injection with tincture of assafœtida, turpentine, and opium. This is generally followed by speedy relief, the pulse becomes more natural, the belly soft, and the excruciating agony is relieved. This is the mode of treatment in which I have the greatest confidence. After the acute symptoms are removed, it will be proper to exhibit a laxative, for the purpose of removing the exciting cause of the disease,—indigestible matter; unless you get rid of this, your patient is liable to a return of the attack, and even to an inflammation of the tube itself. But not, therefore, satisfied with merely relieving your patient; watch him carefully, and, by a proper treatment, obviate a recurrence of the symptoms, and prevent any tendency to inflammation.—*Ibid.*

25. *Treatment of Biliary Calculi.* By WILLIAM STOKES, M. D.—Suppose you were called to attend a person of sedentary habit, who indulges in high seasoned food, takes no exercise, and gets a sudden attack; he lies, perhaps, on the floor, writhing with agony; he is beginning to exhibit the yellow tinge of jaundice; he refers his pain to the region of the gall-bladder; his pulse, however, is quiet, and he has no evident symptoms of fever. Here the nature of the disease is manifest, and the first thing you have to consider is what are the indications of treatment. These are obviously threefold. The first is to guard against inflammation; for you are aware that inflammation may take place, and besides, the higher the irritation and, (if I may so term it,) the spasm of the gall-ducts are, the greater will be the difficulty in passing the stone. The next thing is to allay spasmodic pain. We know that this pain is principally spasmodic or nervous, because it is always more sudden and violent than that which attends common inflammatory action, and, moreover, it is commonly unaccompanied with symptoms of inflammation. The third indication is to adopt measures to favour the passage of the stone. Now, these three indications, but more particularly the second and third, are, as you may perceive, reducible to one form of treatment. Whatever will relieve pain and spasm, will assist in favouring the passage of the stone. If then, you happen to meet with a case of this affection in a strong robust constitution, where the pain is violent, and is aggravated by pressure, and particularly where there is any sign of febrile disturbance in the system, I would advise you to bleed such a person immediately. Not that you have to combat actual inflammation, but because you have to prevent the liability to it, and because in using the lancet, you are employing a most powerful antispasmodic. The next thing of importance in severe cases, is the application of leeches over the region of the gall-bladder, and the same remarks apply to leeching as to venesection. You are not to

suppose that the application of leeches will cure the disease; but you may be sure that it will assist materially in allaying spasm, and favouring the passage of the calculus. The bowels should be freely acted on by purgatives and enemata; you may give a brisk purgative by the mouth, and at the same time a purgative enema. After the bowels have been opened, the only thing which you can rely upon for giving relief is opium, and that in full doses. I have seen several patients labouring under this disease who appeared to me to be maltreated. The different measures for procuring relief were certainly put into practice, but not in a regular or proper manner. They first got a dose of opium, then a purgative, and lastly were blooded. If you have a case of this kind to treat, bleed first, then leech, next employ purgatives, and when you have emptied the bowels, have recourse to opium. I have never employed the anodyne injection in this disease, but reasoning from analogy, I am inclined to think that it would prove serviceable, and I am aware that it has been employed with effect in that form of jaundice which depends upon hysteria. The tobacco injection also seems to have strong claim to our notice, and in this disease must prove extremely useful, from its powerful effect in reducing spasm.

There is a difference of opinion with respect to the employment of emetics. The object of their exhibition is to force the calculus through the ducts, by the shock given by the sudden and violent contraction of the abdominal muscles, and also to relieve spasm, by their subsequent relaxing effect. Some practitioners of high authority, however, state that this practice is not unattended with danger, and give cases of rupture of the gall-bladder after the exhibition of an emetic. Such an accident as this would be very likely to injure for ever the character of a professional man. I am sure the practice in some cases at least is dangerous. A distinguished medical friend of mine has related to me the particulars of a case of this kind in which the exhibition of an emetic was followed by rupture of the gall-bladder and fatal peritonitis. In this instance the case was not so deplorable, so far as the patient was concerned; he was labouring under extensive disease of the liver, and only exchanged a lingering for a sudden death; but this furnishes no excuse for a medical practitioner. If I were to hazard a conjecture, I would say that *emetics can be employed with safety only in the early stage of the disease, when there is no obstruction from organic disease*; for the longer the jaundice has lasted, the greater is the chance of obstruction from organic disease. Again, you should never use them *where there is evidence of a distended gall-bladder*. If you can feel the tumour formed by the distended gall-bladder in the right hypochondrium, you may be sure something has been going on for a long time, and you should be cautious in giving an emetic. Never use it then where you can feel a tumour in the region of the gall-bladder. If you give it at all, give it in the early stage, and after premising venesection, leeching, and the use of the tobacco injection. I had almost forgot to mention that very signal advantages accrue from the use of the warm hip-bath in this disease. I have seen cases in which the most extraordinary relief was obtained by applying twelve leeches over the region of the gall-bladder, and then placing the patient in a hip-bath.

Sometimes it happens that the symptoms return again and again. Here you cannot repeat the venesection; you must employ leeches, the hip-bath, warm fomentations, opium, and every thing calculated to relieve pain and spasm. Watch your patient carefully, guard against inflammation, and if any inflammatory symptoms of the duodenum arise, (but this is rare,) take proper measures to obviate them.—*Ibid*, March 29th, 1834.

26. *Treatment of Acute Hepatitis.* By WM. STOKES M. D.—It is unnecessary for me to say, that in all cases of acute visceral inflammation in the healthy subject, the first consideration is blood-letting, either general or local. In the early period of acute hepatitis, all authors have agreed in strongly recommending the use of the lancet; and there can be no doubt that when the disease is in its early stage, and the patient robust, the practitioner who omits employ-

ing these measures, must be culpably negligent. It should always be borne in mind, that the liver is an organ of paramount importance to life. There are two circumstances, also, which are in favour of bleeding in the case of acute hepatitis—there is less chance of its being complicated with typhus fever, and general bleeding exercises a powerful influence over the acute inflammations of parenchymatous organs. Hence we bleed with greater advantage in a case of acute hepatitis than in the inflammations of mucous membranes. Our first bleeding should be large, and such as will make a decided impression, and it will frequently be necessary to bleed a second and even a third time if the disease be very acute and the constitution strong, taking care to diminish the quantity at each successive bleeding, and to watch its effects. I have here to make one remark,—that general bleeding is not the same heroic remedy, nor has it the same decided influence in arresting acute hepatic inflammation, as in checking pneumonia. A copious detraction of blood has, under favourable circumstances, often succeeded in completely removing an attack of pneumonia, and the patient has recovered without the employment of any other remedial measure; but acute hepatitis is seldom or never cut short in this way. Still venesection is of the greatest importance; and if it were performed merely with a view of preparing the patient for leeching and other depletive measures, its advantages would be unquestionable. I would recommend you, therefore, when you meet with a case of hepatitis in the early period, first to bleed freely, or in such a manner as to make a decided impression on the symptoms; next, to empty the bowels by prescribing a purgative draught, assisted by an enema; and, lastly, to cover the region of the liver with leeches. You will find great advantage in employing your therapeutic means in this order; for if you begin with leeches before you have had recourse to venesection, or the use of purgatives, your practice will not be so scientific, nor will your success be so complete. Bleeding, purgation, leeches, and the application of cupping glasses over the leech-bites, (if necessary,) will give you breathing time; and, after the lapse of twelve or fourteen hours, you will find that all symptoms of urgent danger will have passed away. During the progress of the case, the remedy which I should principally rely upon is local bleeding, frequently repeated. If you apply thirty leeches to-day, I would not have you repeat them to the same amount to-morrow; but you might, perhaps, apply fifteen or eighteen, and the next day ten or twelve. By proceeding in this way, you will find a great abatement in your patient's symptoms; and I know of no circumstance which, taken singly, proves the value and benefit of your treatment so well as the diminution of the hepatic tumour, which you can accurately and satisfactorily ascertain by means of the pleximeter. When you find a gradual subsidence of the swelling, I think you may be pretty sure that, even though the other symptoms exhibit little or no improvement, the hepatitis is on the decline, and will soon be removed entirely.

You have all, I am convinced, heard a great deal of the use of mercury in hepatitis; and there appears to be in the minds of most medical men a strong connexion between mercury and all diseases of the liver. So far has this impression gone abroad, that to some practitioners it would appear perfectly heterodoxical to think of attempting to cure an hepatic inflammation without this accredited panacea. I must, however, confess, that it is my belief that several cases of hepatic inflammation may be cured without it; and, if this be true as I am convinced you will find by experience, it is so much the better for the patient. I do not mean to depreciate the value of this powerful remedy in making this assertion; it is undoubtedly a useful adjuvant, but it is only an adjuvant. It is decidedly secondary and inferior to general and local antiphlogistics, followed by counter-irritation; and you should always bear in mind, that if you wish to bring about the full action of mercury on the system, you must precede its employment by means calculated to reduce the intensity of local inflammation. By premising general bleeding, leeching, and purgatives, you give the mercury an opportunity of exerting a decided influence on the salivary glands;

and in such cases it is that the most unequivocal advantage is derived from it; for, as I have observed in a former lecture, salivation appears often to be the *result* of the reduction of inflammation to a certain degree, and not its cause.

In all cases of hepatitis occurring in delicate females, but particularly in persons of low, scrofulous constitutions, endeavour to dispense with the use of mercury if possible. You will have considerable difficulty in divesting yourselves of early prejudices, and combating those of others; but when you have an opportunity of acting for yourselves, I would have you make trial, and you will find that many cases are curable without mercury. If, after having regularly and carefully employed the means recommended, you perceive that two or three days pass without any improvement in your patient's symptoms, and that the hepatic tumour remains undiminished, then indeed you may have recourse to mercury. But if you have been so fortunate as to have struck a decided blow in the commencement, and that the case is going on well, I would ask, why should you expose your patient to the misery and danger of salivation? I am not by any means opposed to the employment of mercury in cases of liver disease; on the contrary, if we compare inflammation of the lungs, brain, and liver, with respect to the power which it has over each, I believe that it is much more applicable to cases of hepatic inflammation than it is to either pneumonia or cerebritis.

There is nothing more common than a complication of disease of the liver with disease of the upper part of the digestive tube; and here you will find that calomel will frequently cause great irritation of the bowels, vomiting, and increase of fever. Under such circumstances, you must omit the internal use of mercury, and have recourse to frictions, directing your patient to rub in a drachm of camphorated mercurial ointment every six or eight hours until the gums are affected. A very good auxiliary means is to place a drachm of the mercurial ointment in the patient's axilla, and leave it there; the action of the arm will, to a certain extent, answer all the purposes of friction. Dr. Graves is much attached to this mode. Where you have employed blisters, you may cut off the cuticle, and dress the raw surface with mercurial ointment. This also will contribute materially to produce the intended effect on the system. With respect to blisters, the same rules are to regulate their application as I have mentioned before, when speaking of the treatment of gastro-enteritis, namely,—that they are not to be used until active antiphlogistic treatment has been employed; for it is then, and then only that the stimulus of a blister can be useful. I believe it is seldom necessary, or even safe, to apply a blister before the third or fourth day in cases of acute inflammation of the liver. The physician who purges to-day, and blisters to-morrow, and bleeds the next day, is a very injudicious practitioner indeed; he should first bleed, then purge; and, having by these means reduced the symptoms of active inflammation, he may proceed to the use of blisters with advantage.

It is unnecessary for me to remind you, that you must enjoin a strict antiphlogistic diet in all cases of acute hepatitis. Recollect the powerful influence which all dietetic stimulants exercise, not only over the digestive canal and general system, but also over the liver; bearing this in mind, you will for the first few days keep your patient on water and slop diet, and then on mild farinaceous food and chicken-broth.

But suppose that after all this, after having employed all the resources of the science and art of medicine, your patient becomes gradually weaker, his face pale and expressive of much constitutional suffering, his skin flaccid and bedewed with perspiration, his pulse small, rapid and compressible; that the hepatic tumour increases in size, and when you throw aside his bed-clothes, the whole of the right side appears manifestly enlarged; and, if the bowels are empty, you see the hepatic tumour extending far downwards into the abdomen: in addition to these symptoms, suppose the patient has had shivering fits, not only once but repeatedly; that his perspirations are profuse, and have a sour smell; that his tongue is dry and glazed; that his cheeks are hollow, and some-

times present a circumscribed flush; and that he is low, weak and restless. Under these circumstances, you may be sure that the suppuration is commencing or has been already established; and the question is,—what are you to do? You must change your hand, you must give up antiphlogistics, you must omit the employment of all measures which have a tendency to reduce strength, you must prescribe a light nutritious diet, and anodynes to relieve irritation. When suppuration is fully established; the next consideration is, in what direction the contents of the abscess may escape; and here I need not remind you that it is much better that the abscess should open externally, through the integuments of the abdomen, or into some cavity having an external communication, rather than into a shut sac, as in the latter case it is almost certain, and often immediate death. At this period of the case it will be proper to support your patient's strength by allowing him wine, increasing the quantity if the hectic symptoms threaten to run him down, and taking care that his diet be nutritious and of easy digestion. You will also take care to relieve the sufferings and irritation attendant on the disease by the judicious employment of opiates.

When after some time the tumour becomes more elevated and distinct, the pain concentrated in one particular part of the liver, and the abscess is evidently pointing towards the surface, the question then is, whether we shall open it and give exit to the matter, and how this may be best accomplished. That the contents of the abscess should be evacuated as speedily as possible, is true, but the consideration is, how far it can be done with safety. Now, I beg your attention to this point, as it has not been sufficiently attended to in works on the practice of medicine. Recollect what the anatomical condition of the parts is under such circumstances, and that in order to get at the matter, you have to pass through a serous cavity. It is obvious that if you make an incision into the tumour through the peritonæum, and if this be in a state of health, and without any adhesions between its layers in the situation of your incision, you run the risk of having the contents of the abscess effused into the peritoneal sac, and you know that this is almost of necessity fatal. The condition then for success is, *the circumstance of adhesion taking place so as to prevent the matter from getting into the peritonæum.*

Well, it seems to be a very simple thing to give exit to the matter of an hepatic abscess which presents a distinct pointing. Persons will say, adhesion has formed long since, the integuments are swollen and painful, the matter has crossed the peritonæum and lies close under the skin. Here, however, is a curious fact; of all the serous membranes in the body the peritonæum is that which is least liable to general or partial adhesions, and it is well known with respect to hepatitis with suppuration, that you may often have an abscess so large as to form a distinct tumour on the surface, which shall be fluctuating, discoloured, and painful; and with all these conditions, so favourable to the notion of matter being actually under the skin, the patient dies, and on dissection we find not the slightest trace of adhesion. If you plunge a trocar or abscess-lancet into this tumour, what would be the consequence?—death by peritonitis. Dr. Graves and I, in our report of the cases of hepatic abscess which occurred in the Meath Hospital, were the first who drew the attention of the profession to this interesting pathological fact, and subsequently to this, Mr. Annesly, who has vast experience in hepatic abscess, stated that in his practice he found that the existence of adhesion between the layers of the peritonæum in the vicinity of the abscess, even after swelling, tenderness, and discoloration of the integuments, is by no means a necessary consequence.

It appears then to be quite certain, that the opening of an hepatic abscess is a matter of considerable nicety, and requiring a great deal of caution. The best mode of proceeding which can be adopted is, in my opinion, that which has been recommended by Dr. Graves, and which is founded on the most accurate pathological views. He makes an incision through the integuments, over the most prominent part of the tumour, and carries it through the cellular sub-

stance, fat, and muscular tissue, until the peritonæum is nearly laid bare, and there he stops. The wound is then kept open by plugging it up with lint, and after some time the abscess bursts in this situation with perfect safety to the patient. This operation was performed under his direction, for the first time, in a case of abscess where there was no distinct pointing. It was the first operation of the kind, and every one who witnessed it waited with anxiety for the result. Five or six days passed away without any appearance of matter, but about this period the abscess began to point, shortly afterwards there was a large gush of matter through the wound, and the patient recovered perfectly in three weeks. Since that time the operation has been performed on two patients with success and safety. In the case of one patient it was performed twice at no very considerable interval.

Now, I believe you are all aware, that in cases of deep-seated collections of pus, it is of the greatest importance to remove the obstruction to its exit externally, and that matter will always point towards the place where there is the least resistance. The performance of this operation not only tends to remove the resistance, but also has this advantage, that the existence of irritation in the neighbourhood of the abscess, and immediately over the peritonæum, has a strong tendency to produce adhesion at this point, a circumstance which I was able to verify in a fatal case, in which the abscess had pointed, but never burst. In this case we found on dissection six or seven small tumours near the surface of the liver, without any traces of adhesive inflammation in the peritonæum over them, but over the situation of the tumour, in the direction of which the incision had been made, there was a considerable quantity of organized lymph, and the two layers of the peritonæum were closely adherent. That this effusion of lymph had not been accidental, is rendered probable by the rarity of its occurrence, from not being observed in other cases in which an operation had not been performed, and lastly from the success of the operation in those cases in which it had been employed. I would advise you, therefore, in all cases of hepatic abscess showing a tendency to point, but particularly if this pointing be distinctly towards the surface, to make an incision down to the peritonæum, fill up the wound with lint, and you will often succeed in causing the abscess to break externally, and without any danger to your patient.

With respect to the bursting of an hepatic abscess into the cavity of the peritonæum, I have stated to you before, that it is almost necessarily fatal. I say almost, because I have seen two cases of this termination, of which one recovered completely from the peritonitis, and the other lived eight or nine days after the discharge of matter into the peritonæum, and on dissection it was found that a process of cure had been going on. The first of these cases was that of a young woman who had a vast chronic abscess. An attempt was made to make this open externally, by destroying the soft parts over it with caustic, but this not succeeding, a lancet was introduced through the eschar made by the caustic. The patient was immediately afterwards attacked with severe pain in the abdomen, and distinct symptoms of peritonitis. As she was very weak and emaciated, Dr. Graves, under whose care she was, gave her opium, in full and repeated doses, allowed her the free use of wine and porter; no blood was drawn, no depleting measures of any kind used, but every thing done to support strength and relieve irritation. Under these circumstances, (wonderful to relate,) she recovered from the peritonitis. She afterwards sunk from the abscess, and on dissection we found that the peritoneal cavity was obliterated, just as the serous investment of the testicle has its opposed surfaces glued together after an operation for the radical cure of hydrocele. In the other case, the patient lived eight or nine days after the occurrence of symptoms of peritoneal inflammation. On dissection we found a large quantity of transparent lymph effused on the surface of the peritonæum, in the substance of which several large blood-vessels had been developed.

The principles of treatment in a case of this dreadful accident is to support strength and remove irritation, laying aside all antiphlogistics. I am sure

that under such circumstances, the ordinary modes of treating peritonitis are inapplicable and useless. As I shall return to this subject when I come to speak of peritonitis, I shall here merely state, that the treatment of such a case as this is to be conducted upon the same principles as peritonitis, produced by rupture of the intestine, or a perforating ulcer.—*Ibid.*

27. *Treatment of Chronic Hepatitis.* By WILLIAM STOKES, M. D.—It is of great importance in chronic hepatitis to place the patient under such circumstances as will ensure the full and favourable action of the remedies employed. The use of wine, spirits, and all kinds of exciting food must be laid aside; the patient must not use any thing capable of producing fever during the process of digestion. So long as any kind of food or drink produces uneasiness and sensations of heat and fullness, you may be sure that it will do more harm than good. Give him what will support his strength without exciting the vascular or nervous systems during the process of digestion.

You must next prevail on your patient to give up the use of active purgatives by the mouth. This is a point which you should strongly and firmly insist upon, as in consequence of the ordinary costive state of the bowels which accompanies chronic inflammation of the liver, the patient is generally in the habit of having recourse to those temporary and hurtful remedies. It is the same thing in cases of chronic hepatitis as it is in chronic gastritis; you will find the subjects of these diseases taking different purgatives every day. Break your patient of this practice if possible; you will have some difficulty in doing so, for he has been long habituated to it, and you must exercise all your authority in putting a stop to the pernicious habit. Instead of purgatives by the mouth, make him use every day an emollient injection. You may, if necessary, give occasionally mild laxatives by the mouth, as Rochelle salts, manna, castor oil, or something equally mild, and in this way you will be able to secure a regular alvine discharge once in the twenty-four hours at least. But where there is considerable pain and tenderness in the region of the liver, this plan alone will not be sufficient; you must apply relays of leeches, a practice which has a most admirable effect in chronic hepatitis. I would advise you to apply cupping-glasses over the leech bites; by doing this you get as much blood as you wish, and you will generally save your patient from the annoyance of an oozing hæmorrhage. When piles exist, it will be often useful to apply leeches to the anus, followed by the hip-bath. But I have no hesitation in saying, that as a general mode of relieving hepatic disease, the application of leeches to the right hypochondrium is far preferable in every point of view. You may in the next place have recourse to blisters, and I have frequently employed blisters, alternately with leeches, with the best results. Tartar emetic ointment, in the form which I have already mentioned, croton oil frictions, and other modes of counter-irritation, will assist materially in bringing about a successful termination. But these must be continued long, and used over an extensive surface.

In this way, by regulating your patient's diet, keeping his bowels open by enemata, or the mildest laxatives, by small and repeated local bleedings, with counter-irritation, you will frequently succeed in removing all the symptoms of chronic hepatitis without the use of mercury. But if, after having carefully employed all these measures, the symptoms manifest a degree of persistence, if your patient has not already taken a large quantity of mercury, (which is not likely to be the case in this country,) and if he be not of a scrofulous habit I see no reason why you should not have recourse to mild doses of mercury. For this purpose nothing answers better than to prescribe, once or twice a day, a pill composed of hydrarg. c. creta, blue pill, or a small quantity of calomel, combined with rhubarb, extract of hyoscyamus, and taraxacum. It will be seldom necessary to bring on actual salivation, but if the pain continues to be severe, the swelling undiminished, the symptoms obstinate, and no contra-indication existing, you may bring him under the influence of mercury, and

keep him so for a short time. The best mode of doing this, is to direct him to rub in a drachm of the camphorated mercurial ointment every day; and if you have employed blisters, you can assist the frictions by dressing the blistered surface with mercurial ointment.

Some practitioners are in the habit of substituting the nitro-muriatic acid for the mercurial treatment, and there appears to be evidence that it is an advantageous mode of practice in these cases. The best mode of using this remedy seems to be the endermic; and hence bathing the feet, or sponging the right hypochondrium with the acid, are most recommended in chronic affections of the liver. As it is convenient to have a formula for making the nitro-muriatic solution, I shall give you the following. Take of strong nitric and muriatic acids of each four ounces, and add to these eight ounces of pure water. Here you have a sixteen ounce mixture; of this combination you may take from two to five ounces, and mix them with three gallons of warm water. This, I believe, is the form recommended by Mr. Annesly. Having placed this solution in a foot-bath or tub, you should direct your patient to keep his feet in it for twenty minutes or half an hour. If the bath be of proper strength, it will communicate to the skin a pricking sensation, if not, you may increase its strength by adding an ounce or two more of your mixture. The same solution will answer for sponging over the liver. There is no doubt, that in certain cases of chronic hepatitis this remedy has been found decidedly useful, and as its employment is unattended with any dangerous or disagreeable consequences, it has strong claims to our notice. The cases of chronic hepatitis to which it seems to be peculiarly adapted, are first, those where mercury has been used irregularly, or for a long time without any benefit, and secondly, where the patient is of a broken-down constitution, and where you are anxious to dispense with the use of mercury if possible. Here the nitro-muriatic treatment is of decided value. I need scarcely remark to you that this acid frequently acts upon the system somewhat like mercury, producing tenderness of the gums and pyalism. Such an effect as this furnishes us with an example of those cases, in which we find other remedies as well as mercury producing a decided effect on the salivary glands, and exercising a very powerful influence over hepatic and syphilitic affections. An interesting fact bearing on this point is related by Mr. Cox, in his account of his residence on the Columbia river. Several of his party who used a strong decoction of the fresh sarsaparilla were salivated.

There is one circumstance connected with the treatment of chronic hepatitis, which I believe has not been sufficiently dwelt on. You may have a case in which there was distinct evidence of chronic inflammation, and where, under the influence of judicious treatment, the signs of inflammation and organic derangement subsided, but where severe pain still continues to be felt in the region of the liver. The nature of this pain is often mistaken; *it is supposed to depend upon a continuance of inflammation, while it is in reality nothing more than a mere neuralgic affection—a remnant or successor of the former disease, to which the antiphlogistic treatment is totally inapplicable.* Under such circumstances the patient goes from one practitioner to another, taking different medicines, and submitting to repetitions of the usual modes of treatment, but with little or no benefit. Now, I have seen in several cases, this symptom yield completely to treatment calculated to remove purely neuralgic affections. In a case lately under my care of a gentleman who had been attacked with enteritis and hepatitis in India, and who had taken enormous doses of calomel “for the liver,” and of croton oil “for the bowels,” this circumstance occurred. When first I saw him, he was emaciated, the skin yellow, the urine high coloured, with thirst, costive bowels, and great tumefaction in the region of the liver. These symptoms completely subsided under treatment, but a violent pain, running at intervals, continued obstinate. This was rapidly removed by a course of the carbonate of iron, and the use of the belladonna plaster.—*Ibid*, April 26th, 1834.

28. *On the Use of Colchicum Autumnale in Leucorrhœa.*—GEORGE RITTON, Esq. in a communication in the *London Lancet* of 2d of August last, states that he has treated a vast number of cases of leucorrhœa with the powdered root of colchicum with almost invariable success. He commences its use with grains of the powdered bulb made into a pill with hard soap, to be given three times daily, and the dose increased to five grains. During the period the patient is taking the colchicum, it will be absolutely necessary, Mr. R. says, for her to abstain from every beverage which contains alcohol. Five grains of powdered bulb of colchicum, exhibited three times daily, will very generally cure leucorrhœa in ten days. Some cases require its continuance for three weeks, and others for a month. The discharge sometimes returns after the discontinuance of the medicine, but after further perseverance in its use Mr. R. has finally found it almost always successful.

29. *Treatment of sore Nipples by Nitrate of Silver.*—Chaps, abrasions, and inflammation of the nipples in nursing women, are productive of extreme suffering. The following method of treatment is asserted by Dr. A. J. HANNAY, in a communication in the *London Medical Gazette* of 9th of August last, to never fail to afford relief, and ultimately effect a cure. "Having gently, but carefully, dried the nipple, touch it freely with a sharp pencil of nitrate of silver. Be sure to insinuate the pencil into the chaps or chinks; then wash the nipple with a little warm milk and water. In most instances, the pain, though smart at first, soon subsides, and a little simple ointment, or one made with the flowers of zinc, is all that is requisite to heal the sore. I occasionally wash the nipple with a saturated solution of borax, before and after suckling the infant. Some suffer a great deal of pain from the application of the caustic, this must not be heeded. A draught, containing an opiate, such as sol. mur. morph. thirty drops, soon brings relief, and the part is presently easier. Some require to be touched more than once,—nay, several times; but each succeeding time it is less painful. I have heard of a solution of nitrate of silver being tried: I can positively assert that it is inferior to the solid caustic, both in relieving and healing these painful affections."

30. *Herpes Preputialis.*—M. BIETT has several times used with success in herpes preputialis the following ointments:—1st. R. Lard, ℥j.; Calomel, ℥ss.; Camphor, gr. viij. M. 2d. R. Cerat, ℥j.; Sub. carb. potass, ℥j. M.—*Bull. de Therapeut. June, 1834.*

31. *On some of the Effects of the Secale Cornutum.*—The third No. of the fortieth volume of *Rust's Magazin*, contains an interesting memoir by Dr. MÜLLER on the above subject. The author does not entertain any fears of the accidents, said by some practitioners to result from the secale cornutum given to hasten delivery, as he has never seen a case in which it has been hurtful to either mother or child, when the delivery was at full time. Dr. M. has repeatedly used the article to produce abortion in cases of hæmorrhage occurring at the second, third, fourth, or even at a more advanced stage of utero-gestation, and in every case the desired effect was promptly produced, and without hæmorrhage. In most of the cases, other abortives had proved inefficacious, and the least delay would have been fatal. Dr. M. has also resorted to the ergot so promote the expulsion of the placenta, and also to arrest uterine hæmorrhages after both natural and artificial delivery, after abortion, those which result from external violence, and in menorrhagia; also in all kinds of pulmonary hæmorrhages; and finally, in nasal and intestinal hæmorrhages, and he thinks that no other means is more useful. It is, especially, however, in uterine hæmorrhages following delivery or abortion, in menorrhagia and pulmonary hæmorrhages that it is most efficacious. Professor Bazzoni has published eight cases of leucorrhœa cured by this remedy; and Dr. M. says that he has long used it in the same disease with constant success, and also in blenorrhagia in

men, and particularly gleet, which has resisted every other treatment. Dr. M. considers the best mode of administration to be in powder freshly prepared, and mixed with sugar. He gives it in doses of from five to ten grains every two hours.

32. *Sulphuric Acid as a Prophylactic against Saturnine Colic.*—Some time ago M. GENDRIN proposed sulphuric acid lemonade as a prophylactic against, as well as remedy for saturnine colic, (see this journal for May, 1832, p. 241.) M. G. has recently communicated to the Academy of Sciences, some additional interesting information on this subject. He states, that M. Rouard, director of a manufactory of white lead, caused all his workmen to take the sulphuric acid lemonade, and from that moment lead colic ceased to occur among the men in the establishment. During two months, only four workmen were slightly affected with lead colic, and this exception is explained by circumstances peculiar to these workmen. But, he adds, that at the same time that these results have confirmed the utility of the measure as regards colic, six of the workmen were attacked with symptoms hitherto regarded as the effects of lead colic, as cramps, muscular debility, and nervous epileptic symptoms. These symptoms, M. G. ascribes to a layer of oxide and carbonate of lead, combined with the epidermis. This observation he considers as accounting for many symptoms hitherto difficult of explanation, and points out the origin of the relapses and symptoms which so often supervene after the cure of colics in workmen habitually exposed to the powerful action of the causes of the disease. He further adds, that whether the sulphuric acid be resorted to as a prophylactic or remedy, it must be employed externally, as well as internally. Conformable to this indication, the workmen in the establishment of M. Rouard, at the same time that they take the sulphuric acid lemonade as drink, use lotions of the same to the surface of their bodies.

33. *Chlorine Inhalations in Chronic Pulmonary Catarrh.*—Dr. TOULMOUCHE, who, we mentioned in our preceding No. p. 238, to have found chlorine inhalations so devoid of efficacy in phthisis pulmonalis, relates in a memoir in the *Archives Générales*, for April, 1834, three cases of chronic pulmonary catarrh cured by that remedy, and he states that he could adduce others demonstrative of the utility of these inhalations in this disease.

34. *On the Employment of the Alcoholic Extract of Aconite in the Treatment of Acute Articular Rheumatisms.*—Dr. LOMBARD of Geneva, in a memoir inserted in the *Gazette Médicale de Paris*, of the 28th of June last, highly extols the efficacy of the alcoholic extract of aconitum in articular rheumatism. He considers the remedy as a specific against the above mentioned disease, and that it particularly acts upon the fibrous tissues which surround the articulations, as well as on the synovial membranes which cover them. He states that the article does not excite perspiration as stated by Stork, nor does it modify the digestive function, or alter the urine either in quality or quantity. In large doses it however excites the brain. Dr. L. gives it in doses of half a grain every two hours, and augments the dose to six or nine grains in the same period. The following are Dr. L.'s conclusions:—1st. The alcoholic extract of aconite is endowed with a specific power against acute articular rheumatism. 2d. It promptly cures the pain and tumefaction, and disperses the effusions of synovia contained in the articulations affected with acute rheumatism. 3d. This medicine does not act as a derivative on the skin or intestinal canal. 4th. Given in a large dose, it produces a powerful stimulation of the brain, and appears to modify its circulation. 5th. The alcoholic extract contains the active principle of the aconite, at least as to its anti-rheumatic properties. 6th. It may be administered in increasing and divided doses, from six grains to ζ iss. of the alcoholic extract of the aconite in the twenty-four hours.

OPHTHALMOLOGY.

35. *Observations on the Use of Corrosive Sublimate in Ophthalmia.*—M. F. DUROUET, fils. has been induced to try the effect of this medicine, on the authority of M. Bally of Paris. A woman, six days affected with intense inflammation of the conjunctiva of the left eye, (from exposure to a very great change of temperature,) could not bear the light; she felt as if her eye was full of sand; there was great engorgement of the vessels; antiphlogistic treatment was indicated; a collyrium of four grains of corrosive sublimate, to four ounces of distilled water, was prescribed to bathe the eye, thirty or forty times a day, and a tepid foot-bath morning and evening. On the third day of this treatment she was almost cured, there being only a slight inflammation near the external angle; she could bear the light, and had no feeling of sand in the eye; she continued the collyrium and baths for six days, when the eyes were quite well. The second patient was a man, thirty-nine days affected with ophthalmia of both eyes; he had caught cold from fishing at night by torch light. He had been treated by leeches to the temples, blisters to the nape of the neck, and various collyria. There was on the cornea of the right eye a speck, the size of a grain of millet; this eye was the most painful, and secreted clear, irritating water. He was ordered the same application to keep up the discharge from the blister, and a cooling diet. On the eighth day the disease was evidently better. On the thirteenth the inflammation was completely gone, and very soon the recovery was perfect.—*Rev. Méd. June, 1834.*

36. *Treatment of Fistula Lachrymalis by the Perforation of the Maxillary Sinus.*—M. LAUGIER, who some years since proposed this method of treating lachrymal fistula, has again called attention to the subject in a memoir in the *Archives Générales*, for April last. He relates a case in which he has successfully employed it, and he states that M. Jobert has treated several cases at the Hôpital St. Louis, with success, by the same method. He performs the operation with a common bistoury and a small trochar, the stem of which is bent six lines from the point.

SURGERY.

37. *Tumours over the Body.*—A man, named Thomas Barnes, was admitted into Oxford Ward a few days since under the care of Mr. Brodie, having been troubled for some time past with the growth of various tumours over his body. On being examined, they were found to be of various sizes, structure, and consistence. They were situated principally on the arms and legs, and one of them bore a resemblance somewhat to a node. The man could give no precise time as to the period of their first appearance, nor any cause which might have been likely to produce them. Their average size was that of a large walnut, and they were generally moveable under the skin, and not very hard to the touch. They gave no uneasiness, neither did they cause any pain when touched or handled. The patient's general health was remarkably good.

Mr. Brodie remarked, that, as far as his memory would serve him, he had only met with two cases whose characteristic symptoms at all approached to the one now before him, and these derived much benefit from the use of the *liquor potassæ* internally. The patient was therefore ordered to take *liquor potassæ* ʒj. three times daily in a glass of fresh small beer.

Mr. Brodie observed, that, with reference to this medicine, he had employed it in a vast number of cases of tumour either internal or external with very great success. It would frequently disperse abdominal tumours, the precise nature of which could not be accurately ascertained. A gentleman here asked Mr.

Brodie whether it would not be worth while to try the value of this medicine in those cases of unusual and unnatural accumulation of fat in different parts of the body which sometimes occur. Mr. Brodie answered that it would be a remedy well worth trying in such cases. A man servant came to the hospital, some years since, as an out-patient under Mr. Brodie. He had two large pendulous masses of fat occupying the anterior surface of the neck, between the lower jaw and upper part of the chest, and posteriorly covering the nuchæ. This abnormal growth was a great calamity to him, as, from his appearance, no one would ever engage him as servant. He took the liquor potassæ in doses of from ℥j. to ℥iss. ter in die for some time, and the growth of this swelling slowly diminished down to such a size as to prove no longer a source of uneasiness or disfigurement to him. Some time afterwards Mr. Brodie saw this man, and the tumour at the fore part and back of the neck had so nearly disappeared as to enable him to follow his usual occupation. Mr. Brodie had another case nearly similar to the above, in which the same good results followed the internal exhibition of the liquor potassæ. There also sometimes arise different collections of fat under the skin, unequal in size, and having no defined margin or edge; and in these cases the exhibition of this medicine is equally useful.

The patient has continued taking the liquor potassæ; no material benefit has yet resulted from it, there not having been sufficient time. He complains that the medicine "binds him up," and he was therefore ordered:—℞. Pilulæ hydrargyri; Extracti colocynthid. comp.; Extracti hyoscyami, aa ℥j. misce. Fiat massam, in pilul. xij. divid., quarum sumat i. o. n. h. s.

Mr. Brodie observed, that this prescription was a very useful one, and of particular service to patients who were taking the liquor potassæ. The medicine has agreed with this patient very well hitherto, but no decided effect has as yet resulted in regard to the diminished growth of the tumours. He does not suffer in his general health, and his bowels are purged occasionally by a dose of house physic.—*Lond. Med. and Surg. Journ. March 15th, 1834.*

38. *Urinary Syphon.*—The *Lancet*, for September 27th last, furnishes the following description of a syphon for drawing off the urine, invented by Mr. LAWYER, a young American. "The apparatus consists of two tubes and a vase; one is a gum elastic tube, several feet long; near the middle of this is fixed another small tube, less than the moiety of the large one, and of inferior diameter; it is mounted on a cork, which is fitted to the vase containing water. The fluid in the vase tends to pass through the small tube into the inferior half of the greater one, whenever the latter is on a lower level. Let us suppose the superior half of the great tube attached to a catheter, and introduced into the bladder—the vase placed on a chair by the patient's bed side, and the other extremity of the tube hanging into a basin, &c. A current is established by suction along the smaller tube and from the vase. As soon as the current reaches the inferior moiety of the great tube, a vacuum is established in the part which has been passed into the bladder, and the urine runs out to the last drop. The suction is so strong, that we have seen the tube take up a single drop of water from the chimney-piece of the author's apartment."

39. *Amputation of the Neck of the Uterus.*—M. LISFRANC, in a memoir recently read before the Academy of Sciences of Paris, and published in the *Gazette Médicale*, for 21st of June, 1834, states that he has amputated the neck of the uterus affected with cancer in ninety-nine cases, eighty-four of which were cured, and fifteen died, among the latter he includes the cases of relapse. He further states, that all his unsuccessful cases were in women, in whom the disease was far advanced.

40. *Application of the Dynamometer and Pulley to the Treatment of Luxation.*—Dr. SEDILLOR, in a memoir recently presented to the Academy of Medicine of Paris, and published in the *Gazette Médicale* of 23d of August last, recom-

mends the employment of the dynamometer and pulleys in the treatment of fractures. The use of the former instrument permits the surgeon to ascertain with mathematical precision the extending power he employs, whether resulting from the efforts of assistants, or the action of pulleys, and the force being thus submitted to calculation, the pulleys, he thinks, may be advantageously substituted for manual assistance; the former allowing of a more equal, graduated, or permanent extension, without the oscillations and jerks which occur when manual assistance is used.

41. *Case of Lithotomy and Lithotripsy in the same Individual.*—The *Gazette Médicale de Paris*, of the 23d of August last, contains an interesting case of urinary calculus, in which the patient, within the space of six years, was once cut for the stone and four times subjected to lithotripsy. This case occurred in the practice of M. Amussat, and is related by Dr. PHILLIPS. The patient was a man, 55 years of age, of sedentary habits, who, in 1827, was affected with gravel followed by vesical catarrh. M. Huerteloup, after eight sittings, the last of which was in August, 1828, relieved him of his symptoms. The instrument employed was the three-branched forceps, and the pain experienced by the patient was nearly equal to what he afterwards suffered from lithotomy. In 1831, this patient, suffering under a return of his complaint, came under the care of M. Amussat, who in September performed the operation of lithotripsy with the forceps with five branches. The patient suffered much from the operation, but for a short time seemed relieved from his complaint. Two months after this second operation, however, the patient was attacked with nephritic fever and a return of his calculous symptoms, and exhausted by his sufferings and weary of life, he determined this time to undergo the operation of lithotomy. This was performed by M. Amussat, and two calculi, one the size of a pigeon's egg, and the other of a French bean, extracted. The bladder was explored with the greatest care, and no fragments discovered in it. The patient's recovery was rapid, and in fifteen days he was able to walk in his garden. His health daily improved, and he supposed himself to be permanently relieved from his troubles; but his hopes were soon destroyed by the reëpppearance of his old symptoms. In July, 1833, M. Amussat once more operated upon the patient, and again in August. The instrument employed in this second sitting, resembled the *brise-pierre* of M. Huerteloup, but in place of a groove to receive the superior branch, there was a tube in which the inferior branch slid. The patient was relieved, his spirits returned, and he resumed his business. Six or eight months afterwards, the patient was again attacked with his former symptoms, and he again sought M. Amussat, who in July operated upon him for the fifth time. Four sittings were necessary, and at the time the report was written the patient had ceased to pass any fragments of calculi with his urine, and was rapidly convalescing. The operation, this time, was performed with a new instrument, devised by M. Amussat, which we could not make intelligible to our readers by a verbal description. The action of this instrument was so simple, that the patient states he would rather undergo a sitting of lithotripsy, than have a tooth extracted.

42. *Imperforate Anus—New Operation for its Cure.*—M. Roux, of Brignolles, was called in consultation, May 15th, 1833, to visit a new-born child, in whom no trace of anus could be discovered in the perinæum, either by the finger or eye; the rectum terminated at the ureter, and this last, closed at its extremity by a membrane, was pierced below the penis by a kind of hypospadias. The penis was in a state of erection. The first cries of pain had been succeeded by hiccup and vomiting. The physician first called had divided the membrane which closed the urethra, and he had not ventured to search for the anus. Notwithstanding the difficulty of this operation in such circumstances, M. Roux placed the infant upon the knees of an assistant, divided the skin to the extent of eight lines, where the anus ought to have been situated, and exposed the

fibres of the sphincters, which he dissected aside. Arrived at the levator ani, he also separated its fibres towards the coccyx, for fear of wounding the bladder, and above this last layer of muscles he met a mass of cellular tissue, in which a soft and fluctuating tumour was perceptible to the finger. At the spot of this indication of the rectum, a puncture made with a bistoury gave exit to a large discharge of meconium. This puncture was enlarged so as to permit the introduction of the first phalanx of the index finger; this was replaced by a roll of lint smeared with cerate, which was maintained there. The following day, fecal matter was discharged from the wound, and some also escaped from the urethra. The incision was enlarged towards the coccygis, to favour the passage of the fæces, and after this precaution, the artificial anus fulfilled quickly and exclusively all the offices of a natural one. The infant lived, and enjoyed good health. MM. Capuron, Roux, and Moreau, to whom this case was referred by the Academy of Medicine, in their report, highly extolled the method followed by the author of the above operation.—*Gaz. Méd.* June 28th, 1834.

43. *Amputation of the Thigh for Fungous Hæmatodes in a New-born Child.*—The first No. of a new periodical, the *Medical Gazette of Madrid*, contains an account of a child affected with an enormous tumour occupying the right thigh, and presenting all the characters of fungous hæmatodes. Dr. Paul, the narrator of the case, first saw this child when it was seven weeks of age. The tumour was opened, which gave rise to a profuse hæmorrhage, which, in less than a minute, caused the infant to faint. For two days the patient remained in a state of extreme prostration. The child became wan, and had green alvine evacuations, and amputation was deemed indispensable. This was performed above the knee, on the 4th of October, 1833, when the child was nine weeks and four days old. Very little blood was lost; nearly as many arteries were tied as in the adult, and the lips of the wound were united. There was less subsequent depression than usual in the adult; the child almost immediately took the breast, and passed a tranquil night. Amendment gradually followed; the alvine dejections became normal; the ligatures came away on the tenth day. The wound had cicatrized, when on the fifteen day the stump swelled, and erysipelas supervened, and the child died November 2d, twenty-nine days after the operation.

44. *Polypi cured by a Solution of Sulphate of Zinc.*—MR. JOSEPH DALLAWAY has cured seventeen cases of common polypi by the sulphate of zinc, $\mathfrak{z}\text{ij}$. dissolved in water, $\mathfrak{z}\text{ij}$. The lotion was introduced up the nostril by means of lint well moistened with it, and the lint spread over the surface of the tumour, as far up as can be conveniently effected, by means of a probe director. This lint must be kept moistened by dropping in the solution of zinc four or five times in the day, and then by removing it night and morning, to be replaced with a fresh piece of such moistened lint. All the cases were cured in a fortnight by this means. Mr. D. first adopted this practice as far back as 1797; and aptly remarks, that it *may* prove equally successful in certain cases of polypus uteri. Dr. A. Copland Hutchinson has tried the remedy, and in three cases of the soft common polypus of this organ, he succeeded, within ten days, in removing the disease; and Mr. Chevalier is said to have been equally successful with one or two others.—*Lond. Med. Gaz.* Oct. 4th, 1834.

45. *Wound of the Heart—Patient survived Ten days.*—A case of this is related in the *Filiatre Sebezio di Napoli*, of May, 1834, by Dr. FRIS. The instrument, a knife, passed through the left ventricle, and penetrated into the parietes of the opposite side of this cavity. At the moment the wound was received, there was a gush of blood, and the patient fainted. When seen by Dr. F. who was immediately called, the patient exhibited the following symptoms:—Face pale; pulse feeble, and sometimes intermittent; respiration difficult; slight op-

pression; deep-seated pain in the wound, from which a few drops of blood oozed; the intellectual faculties unaffected. The patient was gradually improving, when, on the tenth day he suddenly fainted and expired. Dr. F. states that the patient was able to survive such a length of time with so severe a wound, in consequence of the formation of a coagulum in the left ventricle, which closed the wound.

46. *Sudden Death from the Entrance of Air into the internal Jugular Vein.*—An instance of this is recorded in the *Medicinische Zeitung*, 1834, by Dr. ULRICK. In extirpating a tumour which occupied the side of the neck, and included the vessels and nerves of that region, Dr. Ulrick discovered that he had opened the internal jugular vein. Not a drop of blood escaped, and the walls of the vein did not collapse, but remained distended like an artery. The inner surface presented nothing remarkable; but externally a whitish appearance was observed which is not natural to a vein. The assistants thought they heard a hissing noise when the vein was cut. Immediately a bloody froth escaped from the lower orifice; the patient fainted; experienced slight convulsive motions of the face, and was attacked with opisthotonos. The countenance was pale, the pulse small, the respiration slow, and death took place in about a minute. Twenty-two hours after death, scarcely any evidence of putrefaction existed. The integuments of the cranium, when divided, poured out a considerable quantity of blood, and the brain was firm, and presented red points. The carotid, the trachea, and vagus nerve, were found to be uninjured. The internal jugular was imbedded in the tumour, and a little above the point at which it was divided, was obliterated. On opening the pericardium, the right auricle was found distended and elastic. It immediately collapsed on being punctured, although no blood escaped. The blood contained in the right ventricle, and in the body generally, was black and fluid.—*N. A. Archives, from Journal des Connais. Med. Chirurg.*

47. *Strangulated Hernia relieved by extract of Belladonna.*—Dr. FRANKEL has successfully treated six cases of strangulated hernia, with the extract of belladonna. Five of these cases were crural hernia, in females. The sixth was an umbilical hernia.—*Grafe und Walther's Journal, B. XX. S. 4.*

48. *Case of Ununited fracture of the Femur cured by the introduction of a Seton.* By E. M'DOWELL, Esq.—“Michael Flood, aged twenty-five, was admitted, under my care, into the Richmond Surgical Hospital, Brunswick street, January 16th, 1830, with ununited fracture of the left femur. The fracture was below the centre, and was very oblique; the bones overlapped, the muscles were wasted and flabby, and on attempting to bear any weight on the limb it bent inwards: the limb was useless.

“*Previous history.*—Has been very healthy; never had syphilis. The fracture occurred two years previously, and splints were kept on for two months. Being then urged to use the limb, he got out of bed; and, in the first attempt to bear on it, the recently-connected parts separated. Splints and very firm pressure were employed for three months longer; but no union: a blister was afterwards applied; but at the expiration of twelve months the fracture was still disunited. He then came to Dublin, and was in Stevens' Hospital for nearly six months. A bandage, previously dipped in glue, was applied; short splints, firmly bound on; and he was allowed to go about on crutches. At the end of six months there was less yielding at the fracture, but no union; and a useless limb. He then came under my care. The period for using mercury, to excite a sufficient degree of action in the parts, and thus favour the formation of callus, had gone by. On the 20th of January, an incision was made down to the fracture on the inside of the thigh; and a long seton needle, with a thick seton of silk, was passed between the overlapping bones, and these brought out at the outer side of the limb. The operation was bloodless. The limb

was then placed in a double-inclined plane. On the following day there was some local and constitutional disturbance; the fever lasted six days, and was moderate; the inflammation was not violent; the suppuration became rather profuse, and in about fourteen days the seton was removed. The progress to perfect cure was very slow, but was so complete, that in 1832 this man was employed as a grave-digger in the burial ground attached to the Cholera Hospital, where, unfortunately, he had full occupation. The limb recovered its plumpness, but was about one inch shorter than the sound, the bones having overlapped."—*London Medical Gazette*, August 9th, 1834.

49. *Lithotripsy*.—This operation has lately been successfully performed at St. Bartholomew's Hospital, by Mr. Lloyd; without any previous practice, we understand, on the dead subject. He experienced but very little difficulty in seizing the stone at the first attempt; and after two or three introductions of the instrument, the patient was discharged cured. The operation which seemed at first to be one of considerable difficulty, requiring great skill and manual dexterity, is now becoming more generally adopted; and at last it obtains some favour in our hospitals.—*Lancet*, Sept. 27th, 1834.

50. *Reunion of Fracture of the Cervix Femoris within the Capsule*. By THOMAS FAWDINGTON, of Manchester.—Anne Whitehead, æt. 68, of active habits and good constitution, was thrown down by a bale of goods which fell from a wagon, in June, 1828. She could not rise without assistance, and being unable to walk, was immediately conveyed home in a coach. When I first saw her, some hours after the accident, she complained of great pain in the left hip, increased by moving the limb, which was shortened from an inch and a half to two inches; the foot at the same time being everted. The length and position of the limb could easily be restored by extending, and an obscure crepitus perceived by now rotating it; but the moment the extension was relaxed, the limb was drawn into its previous position. Little swelling existed at the time. As, from the evidence stated, it appeared to me there was fracture of the neck of the thigh-bone, and believing that Hagedorn's splint was better calculated than any other to maintain the fractured extremities in apposition, and thus afford a chance of reünion, if such were feasible, I at once adopted his plan, with a slight modification. The patient, however, could not be persuaded to submit to the restraint beyond a fortnight; she complained of the position as extremely irksome, and suffered pain from the pelvic bandage. The extremity also was swollen and œdematous. For these reasons, the semi-flexed posture was substituted, by placing the limb on the double-inclined plane; but of this, too, she soon became impatient. The swelling and œdema had now disappeared. Thus driven from such as I was disposed to regard the most efficient resources, the injury was abandoned to the palliative measure of Sir Astley Cooper. The woman continued this for nearly two months, when she began to walk with crutches, afterwards with a stick only; and at the expiration of about nine months from the period of the accident, she was able to move along with a tolerably firm, though irregular step, without any artificial aid whatever.

In May, 1833, the subject of this case died from bronchitis, which afforded us an opportunity of examining the seat of the injury, of which the following contains a brief description.

When the body was laid on the table, the knee and foot on the left side were everted, and the limb measured, in length, not quite an inch and a half less than the right. On reflecting the muscles, the capsular ligament of the hip-joint appeared thickened and irregular on its external surface, and the trochanter major situated nearer to the dorsum ilii than usual; with these exceptions, nothing remarkable was detected until the capsule was opened. The neck of the femur, which seemed buried in the acetabulum, was evidently roughened and projecting forward; and here the reflected portion of the synovial membrane was adherent, but so slightly, that with the handle of the scal-

pel the adhesions were easily removed. The bone was now taken from its socket, and brought away, along with its fellow, for more accurate inspection; it presented the following appearances:—anteriorly, the prominent part of the cervix projected considerably beyond the level of the base of the trochanter major, in consequence of a deposition of new bone, which extended from the latter point to within less than a quarter of an inch of the circumference of the head, yet strictly within the capsular ligament; and here the synovial membrane was opaque, thicker than natural, and flocculent on its surface, from the separation of the adhesions before mentioned. Posteriorly, the cervix was greatly hollowed, though tolerably equal and smooth, and the depression in this aspect was continuous with the trochanteric fossa. The head of the bone, which had assumed a peculiar obliquity, overlapped, in an unnatural degree the neck, so as to contribute to the hollow referred to; and this articular margin was sharp and abrupt from ossific deposition, which extended forward into the mass of new bone situated on the forepart of the cervix.

The upper part of the head was sunk to the level of the trochanter major, and its lower part was in close approximation with the trochanter minor; while the axis of the head and neck had changed its relation to that of the shaft of the femur in a remarkable manner: instead of having these, respectively, nearly on the same plane, the cervix and head, in relation to the trochanter, formed a line inclining considerably backward; so that they appeared *twisted* from their natural direction. Such, indeed, was the obliquity thus produced, that while the space existing between the articular edge of the head and the base of the trochanter major *behind*, measured barely three-eighths of an inch, *before* it extended fully to one inch and three-quarters. After due maceration, a section was carefully made, which disclosed a line of union corresponding with that of the exterior, thick and dense towards the circumference, and tapering to the centre, where the cancellated structure had become again somewhat developed. The whole of this part, however, was firmer in texture than the adjacent, as well as the interior of the cervix from the opposite side, which had been removed for the sake of comparison. The right femur presented, externally, a perfectly natural appearance *in all its relations*. When prepared and divided in a similar way, the contrast with its fellow was remarkable; the cancelli were free and open, and the external compact texture comparatively unsubstantial and delicate.

My belief that the foregoing case represents an instance of reünion of fracture of the cervix femoris within the capsule, rests upon the following grounds:—

1st. The mode and immediate results of the accident, together with the progress of the case.

2d. The state of the capsular ligament and synovial membrane.

3d. The shortening of the neck of the bone, the irregularity of its surface, the change of relation of its axis to the shaft, and the depression of its head.

4th. The similitude of appearance which is apparent in the section, with what exists in other bones after repair of fracture, of even shorter duration; of which a careful comparison has been made of various specimens in my collection.

5th. The contrast which it presents to the opposite femur; which would seem to indicate that no *general* agency, especially the effects of old age, had been in operation to produce the change described.

Thus I leave the case, and shall be most happy to show the specimen to any of my professional brethren who may feel an interest in examining it.—*Lond. Med. Gaz.* August 16th, 1834.

MIDWIFERY.

51. *Case of Deformed Pelvis, in which Labour was brought to a successful termination by Symphyseotomy.* By Professor PETRUNI, of Naples.—M. Verderosa, twenty-four years of age, rachitic, and of a diminutive stature, wishing to marry, was conducted by her parents to M. Galbiati, in order to ascertain whether the

size of the pelvis permitted her to run the chance of becoming a mother without risk. She was accordingly examined, and the measure of a line extending from the mons veneris to the superior spine of the sacrum gave five inches and a quarter; the surgeon, therefore, advised her not to marry, but his recommendations were neglected, and the woman soon became pregnant. After a period of nine months, she commenced, on the 31st of May, to feel the first labour pains, at six o'clock in the evening, and at two, the following day, the membranes were ruptured; the pains now relaxed a little, as is usual, and then returned; but the neck of the uterus did not dilate, and the head of the child was stopped at the inlet of the pelvis, which was too narrow to permit its descent. The midwife now called up M. Galbiati, who sent for me.

Our first care was to endeavour, by every possible means, to determine the several diameters of the pelvis, which were found to be as contracted as before marriage. It now remained to decide on our conduct. Should we wait a little longer, although the waters had come away for ten hours, the pains were violent, and the head was arrested at the superior orifice? But what chance was there of the case terminating successfully, with a child at full term, and a sacro-pubic diameter of two inches and a quarter? Hence, regarding the time which had elapsed, and the excessive smallness of the pelvis, we decided upon an operation. But as to the choice of the peculiar operation which was applicable, the Cæsarean had always caused the death of the mother when practised amongst us, whereas symphyseotomy presented many chances of saving both mother and child. Besides, in the case before us, symphyseotomy was capable of increasing the antero-posterior diameter by one inch and a half to two inches and a quarter, and would therefore give us a superior diameter of three inches and three-quarters, which is sufficient for a natural labour. I therefore performed the operation, and in a few minutes, although the symphysis was somewhat deviated; but I took for my guide the softness of the fibro-cartilage. The completion of the section was announced by a loud sound, which clearly indicated the degree of distention in which the inlet of the pelvis was placed. The labour was now abandoned to the force of nature, as we had agreed upon; the thighs were merely supported, and it required a separation at the symphysis pubis of two inches, before the head began to descend into the superior aperture. The interval was greater towards the right side than to the left, whence the passage was there more free. The head acted as a wedge, dilating the pelvis, and forced on by the uterus. After some pains, determined by a single dose of the *secale cornutum*, we perceived the head of the child descend into the pelvis, presenting its occiput completely engaged in the interval of the symphysis. At the end of an hour, the labour terminated in the first position, and a child was born in a state of asphyxia, from which it was soon recovered; the child has continued to do well; the head appeared elongated, and had therefore undergone some reduction, but not more considerable than in a natural labour when it is protracted. Its circumference was thirteen inches, its greater diameter five, and the biparietal diameter, measured the next day, gave three inches and some lines. The incision made through the pelvis and soft parts gave discharge to a very small quantity of blood; the lochia appeared as usual, and a bandage with buckles was fixed round the patient's pelvis. With common dressing the wound was completely cicatrized in thirty-five days.—*Lancet*, from *Il Filatre-Sebezio*.

52. *Premature Delivery*.—DR. SCHIPPAN, in his inaugural dissertation presented to the Medical faculty of Wurtzbourg, in 1831, has given a summary of 90 cases of premature labour artificially induced. Of these 70 were delivered naturally, and 20 by artificial means; 17 of the children were still-born, and 73 living; of these last 55 lived, and 18 died. Of the mothers 7 died. In 3 of the women the operation was performed once, in 2 twice, and in 1 three times.

MEDICAL JURISPRUDENCE.

53. *Fissures in the Cranial Bones of Infants, after a Natural Delivery.*—Professor SIEBOLD, of Marburg, gives the following case in corroboration of the assertions of Haller, Baudelocque, &c. &c. that fissures and other supposed marks of violence may exist in the bones of the cranium of still-born children, from the effects of the expulsive action of the uterus.

A female, aged thirty, was received into the Lying-in Hospital of Marburg, pregnant for the third time. The first child had been extracted by the forceps, but dead. The second also dead, had been expelled by the efforts of the uterus, after the administration of ergot. On her entrance, this woman was in the following state: the uterus could be felt three inches above the umbilicus, the neck very high and almost effaced; Baudelocque's compasses gave a diameter of three inches and a half; the sacro-vertebral symphysis could not be felt with the finger. Labour commenced on the 5th of May in the morning, the waters came away about 5 o'clock, and the os tincæ immediately contracted, as is almost always the case when the neck is merely dilated by the membranes, and these are not instantly replaced by the head of the child. After a labour of nine hours and a half the child was expelled. It weighed seven pounds, and gave no signs of life. An examination of it was made the next day. The longitudinal diameter of the head was four inches and a half; the transverse, three and a half; the diagonal, five; an enormous bloody tumour was situated on the right parietal bone, and the left temple was denuded of its epidermis. The parietal bone of the same side presented three fissures, one an inch and a half in length, and two others of a smaller size. The os frontis also presented a fissure towards its lower part. Moreover, the right parietal was depressed, and much blood escaped by the fontanelles.

It cannot be doubted, that the sole cause of these fissures was an undue pressure of the head against the sacro-vertebral symphysis, and affords additional proof of the means which are employed by nature to facilitate the expulsion of a fœtus. If the forceps had been employed, these fractures would indubitably have been attributed to an undue pressure exercised with them; and it must be admitted that in a case where other circumstances demand a judicial investigation, that it would be difficult to decide whether such fissures were the effects of the efforts of nature, or were caused by external violence; an attentive examination of the lesions, and of the pelvis of the woman, could alone throw light on the subject.—*Revue Médicale, February, 1833.*

54. *Hydro-oxide of Iron an Antidote to Arsenic Acid.*—Drs. BUNSEN and BERTHOLD, two physicians of Gottingen, in a memoir recently communicated to the Royal Academy of Sciences of Paris, attribute to the oxide of iron the property of acting as an antidote to the arsenic acid. This acid has the property of entering into combination with the oxide of iron, and thus forming an insoluble salt, (arsenate of iron,) which is altogether innoxious. Chemical researches have shown that in order to neutralize all the arsenic in any solution of arsenious acid, it is enough to add ten or twelve parts of the oxide of iron for each part of the acid.

The best way to prepare the hydro-oxide of iron is to take a pure solution of the sub-sulphate of iron, to increase the dose of oxygen in the sub-salt by heating it with nitric acid, then to pour into the solution an excess of caustic ammonia, and to wash the hydro-oxide of iron obtained, by decantation. Care must be taken not to add the nitric acid before the whole of the sub-sulphate of iron is completely dissolved.

In order to test the efficacy of the antidote, MM. Berthold and Bunsen have made several experiments on rabbits. It is known that a very small quantity of arsenic is sufficient to destroy those animals; however, the antidote, or oxide of iron, may be given in large quantities, without causing any inconvenience, and this is a most favourable condition for the use of any anti-poison.

In the experiments made by the German physicians, when a sufficient dose of the oxide of iron was administered, the rabbits did not seem to feel the slightest derangement after having taken the poison, but commenced even immediately to eat.

The effect of the antidote depends upon the chemical combination which takes place in the living body between the arsenic acid and the oxide of iron. Hence it results that we should always give a sufficient quantity of the latter to neutralize completely the poison. Thus MM. Bunsen and Berthold having administered three grains of arsenic in solution to a rabbit, and having at the same time given only enough of the oxide to neutralize a grain and a half, the animal was soon seized with symptoms of poisoning, and died.

The authors of the present memoir, after a careful description of the effects produced by arsenic, which kills either immediately, in a few hours, or slowly and after months of suffering, expose the mode of treatment which follows naturally from their discovery. They remark, in the first place, that as the antidotes hitherto proposed have been unavailing, emetics, recommended by Boerhaave, and put in practice by most physicians since his time, cannot be expected to save any proportion of patients, because one of the properties of arsenic itself is to excite vomiting. However, we must have recourse to this expedient in all cases where the quantity of arsenic swallowed, being great, would require too large a proportion of the antidote, or where the poison has been taken in conjunction with any substance containing tannin, or brown or green tea, or with sulphur, eggs, &c. which have an affinity for the oxide, and would consequently diminish its efficacy.

When the quantity of poison which has been taken is not exactly known, the oxide of iron must be administered in a very high dose, and if the patient vomit immediately after having taken it, the medicine must be continued in diminished doses; but should no vomiting or derangement of the alimentary canal supervene, the administration of the antidote may be proceeded with until the oxide of iron and arsenic acid pass in the form of a salt from the stomach into the intestines. Even then it will be most prudent not to suspend the use of the oxide, but to give it in small doses, or throw it up with a lavement into the rectum.

The following instance in which the oxide of iron was employed with beneficial effects, in a case of poisoning with arsenic, communicated to the Royal Academy of Medicine, by M. BOULET, is recorded in the *Gaz. Méd. de Paris*.

A carman, employed by a druggist to transport a heavy sack containing arseniate of potass, had deposited the sack on a cask containing the oats which he commonly gave to his horses. The sack gave way in this position, and a considerable quantity of the salt escaping, became mixed with the oats, which were subsequently given to the horses: they fed with appetite. In the evening the oats were again given, and as one of the horses was despatched to Versailles at night, a feed of oats was placed in the car. The horse performed the journey well enough, but in returning the carman fell asleep, and when he awoke, found the animal dead under his car. Immediately on his arrival at Paris the stable was visited, and three other horses were found very ill. They were brought to a veterinary surgeon, at whose establishment one died on arriving. Before morning, out of seven horses in the stable, four were died. M. Boulet being called in, found two of the remaining three in a desperate state; one only offered any chance of being treated with success. He examined the oats, and discovered the mixture of a salt, which, from its weight, he conjectured to be a metallic ore. The druggist declared it to be arseniate of potass. The horses were now considered as lost beyond all hope. M. Boulet gave some mucilaginous drink, and went to the shop of M. Labarraque, the chemist, to ascertain more exactly the nature of the poison. The arseniate was immediately recognized, and M. Chevallier, who was present, determined on seizing the opportunity of trying the antidote proposed by Dr. Bunsen: he prepared the tritoxide, with eight ounces of sulphate of iron in three pints of water; this was first treated with ammoniac, until all stypticity was removed, and then with chlorine to

increase the dose of oxygen. The liquid was administered to the three horses who remained alive; one survived three hours, a second thirty-six; in the third, the symptoms of poisoning were removed by the administration of the remedy, but he was subsequently seized with a very violent pneumonia.

The more recent experiments of Reginald Orton, Esq. Jr. of London, recorded in a late No. of the *Lancet*, (for November 8th, 1834,) throw great doubts over, if they do not even disprove the efficacy, of the hydro-oxide of iron as an antidote to arsenic. Mr. O. administered this poison to three rabbits, and to two of them also the supposed antidote; the animals to which the poison and antidote both were given, died sooner than the one to which the poison alone was given.

55. *Case of Poisoning by Carbonate of Barytes.* By Dr. WILSON.—A young woman half filled a tea-cup with carbonate of barytes, (which was kept in the house for rats, and marked "Poison;") then filled up the cup with water: she said the powder fell to the bottom like white sand; she stirred it up, and swallowed the whole contents; she found no particular taste; had fasted twenty-four hours previously. Soon afterwards medicine was given to her, which caused her to vomit.

On her way to the Middlesex Hospital in the evening, two hours after the event, she found, for the first time, dimness of vision, succeeded by double vision, ringing in the ears, pain in the head, and throbbing in the temples, a sensation of distention, and weight at the epigastrium: she said she felt as if blown up with wind, and complained of palpitations.

When in bed, she first complained of pain in the legs and knees, and cramps in the calves. She vomited twice, a fluid like chalk and water, which formed a deposit. Her skin was hot and dry; her face flushed; pulse 80, full and hard. Repeated doses of sulphate of magnesia were given to her.

During the night she had fifteen evacuations had no sleep from pain in the head and epigastrium, and ringing in the ears.

The next day she had a hot skin, with profuse perspiration, and slight pain about the pharynx. Her tongue was covered with a white fur, and moist.

A day or two after, the cramps became more severe in all the extremities, with a sense of weight, and soreness when touched.

These symptoms, slightly modified, lasted a long time; those which persisted the longest, and which still exist, are severe pains in the head, pain in the left side and epigastrium, great and long-continued palpitations. There has been much difficulty in persuading her to take any sustenance.

The effect on the circulation, in this case, is well marked by the severe headaches and throbbing of the temples, and the frequent and long-continued palpitations.

The effects on the nervous system are marked by the abnormal vision, the ringing in the ears, the cramp, pain, and sense of weight, with numbness of the extremities.

The slowness of her recovery may in a great measure be attributed to the moral affection under which she has laboured. She left the hospital last week.—*Lond. Med. Gaz. July 5th, 1834.*

CHEMISTRY.

56. *On Creosote.* By M. REICHENBACH of Blansko.—M. REICHENBACH, to whose labours we owe the discovery of Paraffine, of Eupione, and Picamore, has recently found, in the products of the destructive distillation of wood, a new substance, which he terms Creosote, from the Greek words, *κρεος*, flesh, genitive by contraction *κρεως*, and *σῴζω*, I save.

This substance is highly interesting, not only on account of its chemical properties, but from its useful application to therapeutics, domestic economy, and

the preservation of provisions for long voyages. Two processes are given for its preparation. By the one, the creosote is obtained from pyroligneous acid; by the other, from the tarry matter which distils over along with that acid. These processes do not differ much; both are tedious, but the latter method seems to be the easier. The tarry matter yields an oil by distillation, to which, after being rectified and heated, carbonate of potash is added, to neutralize the acetic acid associated with it. The acetate of potash separates, and the oil is again distilled, care being taken to reject the first products, and not to carry the distillation to dryness. The oil that comes over is then treated with a solution of caustic potash of sp. gr. 1.12, great heat is produced, and a portion of eupione, &c. formed, which floats on the surface. These are rejected, and the alkaline solution is slowly made to boil in an open vessel. A chemical action takes place,—it absorbs oxygen from the air, and assumes a brown colour. After it is cooled in the open air, diluted sulphuric acid is added until the oil is set free. It is again distilled with water, to which a little caustic potash should be added. The oil is then separated from the water in the receiver, and again treated with a solution of potash, sp. gr. 1.12, boiled as before—cooled—treated with rather an excess of sulphuric acid—poured off from the sulphate of potash—well washed with water to carry off the excess of acid,—again distilled with water, to which a little phosphoric acid is added, to saturate the ammonia associated with the oil. Lastly, it is dissolved in caustic potash, and if the preceding operations have been carefully attended to, the creosote and the potash unite, and the mixture, when heated, leaves no residuum of eupione, nor becomes brown by exposure to the air. The creosote may then be separated from the potash by distillation, and, although not quite pure, is sufficiently so for medical purposes. The foregoing is a very imperfect outline of the process, which will be seen to be sufficiently tedious. The processes will be found minutely described in the *Annals of Schweigger-Seidal*, Vols. VI. and VII.

Creosote is an oily, colourless, transparent liquid, possessing great refrangibility. Its odour is penetrating, disagreeable, and similar to that of smoked beef. It is of the consistence of oil of almonds, and has a sp. gr. of about 1.037, at 20° Cels. (68° Fahr.) It boils at 203° Cels. (397.4° Fahr.) and is not congealed at a temperature of -27° Cels. (-16.6° Fahr.) It burns with a smoky flame. It is a non-conductor of electricity. At 20° Cels. (68° Fahr.) it forms with water two different combinations, the one containing one-fourth part of creosote in 100 parts of water, the other, ten parts of water in 100 creosote.

This substance forms numerous interesting compounds, with acids and alkalis. Concentrated, it dissolves the deutoxide of copper, and assumes a chocolate-brown colour. At a boiling heat it reduces the deutoxide of mercury, and is then transformed into a resin, which has no longer the properties of creosote. Nitric acid acts on it strongly, and acid vapours are disengaged. It combines with chlorine, bromine, iodine, phosphorus, and sulphur. Potassium thrown into it disappears, gas is disengaged, and potash remains combined with thickened creosote. From this combination the creosote separates by distillation. Concentrated sulphuric acid added in small quantities gives to creosote a reddish colour; but when the quantity of acid is increased, the creosote becomes black. Of all the organic acids, the acetic seems to have the greatest affinity for creosote, uniting with it in every proportion.

This substance, when cold, forms two combinations with potash. The one is an anhydrous liquid, of an oily consistence; the other is a hydrate, and crystallizes in white scales. All the acids, not excepting carbonic acid, separate the creosote from these combinations. With soda, it forms combinations similar to those with potash. It has a great affinity for lime, and the hydrate of barytes; with these bodies it forms compounds of a dirty-white colour, soluble in water, but which, when dried, assume the appearance of a rose-coloured powder.

Creosote, in a warm and cold state, dissolves a great number of salts. Some are reduced, but the greater part are separated in the form of crystals by cool-

ing, such as the acetates of potash, soda, ammonia, lead, and zinc, and the hydrochlorates of lime and tin. It reduces the acetate and nitrate of silver.

Alcohol, ether, acetic ether, carburet of sulphur, eupione, and oil of petroleum, combine with creosote in every proportion. Paraffine, though issuing from the same source with creosote, has little tendency to combine with it. Indeed, the combination cannot be effected, unless eupione be present, and is in a direct ratio to the quantity of eupione. Creosote with difficulty dissolves caoutchouc, and only by the assistance of boiling, differing very much in this respect from eupione, which readily dissolves caoutchouc.

If to a solution of albumen, in a large quantity of water, a single drop of creosote be added, the albumen is immediately coagulated. When fresh meat is put into a solution of creosote, allowed to remain for half an hour, or an hour, then withdrawn, and afterwards dried, it may be exposed to the heat of the sun without putrefying, and in the space of eight days it becomes hard, the colour changes to a reddish-brown, and the flavour is that of good smoked beef. Fish may likewise be preserved by it. It is pretty evident that creosote is the antiputrescent principle of pyroligneous acid and of wood smoke.

M. Reichenbach has ascertained that creosote does not act upon pure fibrin, which by itself is said not to be susceptible of putrefaction. Its action upon the animal economy is deleterious. Placed upon the tongue it occasions violent pain, and when poured, in a concentrated state, upon the skin, it destroys the epidermis. Insects and fish thrown into it immediately die. Plants also perish when watered with it. M. Reichenbach has made experiments with this substance concentrated and diluted, and his success has surpassed his expectations. It has, he alleges, effected a speedy cure in cases of caries, of cancer, and of carcinomatous ulcers.

M. Schweigger-Seidal has made a comparative examination of creosote, and the aqua Binelli, from which he has come to the conclusion, that the fundamental base of this hemostatic liquor is creosote, of which it is only an excessively weak solution.—*Edin. Med. and Surg. Jour. Jan. 1834.*

57. *New Method of Preparing Creosote.* By M. CALDERINI, apothecary at Milan.—The essential oil obtained by the destructive distillation of wood, is to be put into an iron vessel, and exposed to a gentle heat. The vessel is then to be taken from the fire, and slaked and sifted lime to be poured into it little by little, and with continual agitation, until the effervescence ceases, and the mixture becomes a hard mass, which is to be allowed to cool, and then powdered. A cast iron retort is to be two-thirds filled with this powder, and placed in a reverberatory furnace. A receiver is to be fitted to the retort at the moment when the white vapours which first come over become yellowish. The distilled liquor is to be placed in a filter of paper moistened with water, to permit only the aqueous part to pass, and the oil left is to be washed with pure water, which is to be allowed to filter. The oil thus washed is to be placed in an iron vessel, and aqua potassæ of sp. gr. 1.125 is to be added in the proportion of three parts to two of the oil. The mixture is then to be boiled for a moment with a gentle heat, after which it is to be taken from the fire, allowed to cool, filtered, and mixed with dilute sulphuric acid, till it becomes slightly acid. The mixture is then to be left at rest, and an oily matter will be found floating on the top, which is impure creosote. This is to be collected, washed on a filter, put into a glass retort, placed in a sand-bath, and distilled. The first portion is to be laid aside, and what comes over afterwards of a pale yellow colour when heat is added is creosote. The distillation is to be stopped when the drops become of a deeper colour. If the distilled creosote be not sufficiently pure, it is to be dissolved in the aqua potassæ, and treated as before, always rejecting the first and last parts that come over on distillation, and this process is to be repeated until it becomes perfectly pure. When the creosote is obtained pure it is to be kept in well-stopped bottles. It is known to be pure when it is colourless, transparent, of specific gravity 1.037, and possessed of great re-

frangibility. If a drop be placed in contact with the white of an egg, it is suddenly coagulated. If it be dissolved in a small quantity of *aqua potassæ*, the solution, when heated in contact with the air, does not assume a brown colour, as happens when the creosote is impure, but becomes slightly reddish.—*Ibid.* Oct. 1834.

58. *Analysis of four Pulmonary Calculi.* By Professor SGARZI, of Bologna.

Phosphate of Lime	-	-	-	-	-	-	-	-	1.56
Carbonate of Lime	-	-	-	-	-	-	-	-	0.39
————— Magnesia	-	-	-	-	-	-	-	-	0.06
Animal matter, 0.14; consisting of	A peculiar fatty matter, soluble in ether, insoluble in alcohol Cholesterine Mucus Yellow brown substance resembling mucus or altered albumen								
									0.06
									0.66
									0.09
Oxide of iron	-	-	-	-	-	-	-	-	0.09
Silex	-	-	-	-	-	-	-	-	0.03
Loss	-	-	-	-	-	-	-	-	0.03
									3.00

Bullettino delle Scienze Mediche, May, 1824.

MISCELLANEOUS.

59. *Preservation of Leeches.*—M. BERTRAND recommends that leeches after they become detached from a part should be gently passed between the thumb and fingers, (or, as it is vulgarly called, stripped) so as to make them disgorge most of the blood which they have sucked, and then be put into water moderately sweetened.

In this method leeches, we are told by M. B. may not only be kept for many years, but will retain their activity, and be fit for reapplying every third or fourth day.

Dr. Scheel has more recently recommended the following treatment as still more effectual.

The leeches should first be put upon a warmish plate, and be well besprinkled with carbonate of soda; when they have disgorged most of their blood, they should be washed several times with tepid water, then put again upon a plate and some sugar sprinkled upon them; and lastly, be washed with cold water and put into a large vessel full of it, gently sweetened.

The sugared water must be changed once a day, or oftener if it becomes discoloured. Those leeches which die or even become wrinkled and faded, should always be cast away.

Dr. S. has succeeded in preserving leeches thus for a great length of time, in good health, and in a condition ready for use every six or seven days.

When there is a very great dearth of leeches, the following expedient may be had recourse to. With very sharp scissors we may cut them right across, somewhat nearer the tail than the head, and then apply them as usual. As the animal sucks, the blood trickles from the divided end. As a matter of course the attendants must be on their guard to prevent an excessive discharge by detaching them at a proper time. They are then to be gently squeezed and put into fresh water. If the divided extremity should become agglutinated to-

gether and closed, we must employ a rather firmer pressure from the mouth downwards, so as to cause the blood to force an exit. Leeches which have been mutilated in the manner above mentioned, have been used several times every day for many weeks.—*Med. Chir. Rev. and Allgemeine Medic. Zeitung.*

60. *Sphygmometer, an Instrument which makes the Action of the Arteries apparent to the Eye.* Invented by JULES HERISSON, M. D.—This instrument, of which the accompanying figure is a representation, is composed of a graduated glass tube, *d*, attached to a steel one of similar diameter, with a stop-cock, *c*, and which terminates below in a steel hemisphere, closed below with a fine membrane, *a*, *b*, gold beater's skin for instance. A determined quantity of mercury is placed in the reservoir, and when the observation is completed the stop-cock is to be turned, in order to prevent the loss of the mercury through the tube, *d*, which is not closed above.

The instrument is applied as follows:—The base of the instrument is to be held between the thumb and index finger, and applied over the course of the radial artery opposite the styloid process, where the pulse is ordinarily felt, in such a manner that the artery traverses as near as possible the centre of the base. The instrument is to be gradually pressed on the vessel, while the physician observes carefully the force of impulsion communicated to the mercury, and he is not to commence his observations on the pulse, until by comparison he has ascertained the maximum of impulsion. To determine this Dr. Herisson proposes the following rule:—Suppose that at 10° of pressure, (that is, when the instrument is sufficiently pressed on the skin to raise the mercury up to 10°,) we have an impulsion of 2°; at 15° of pressure we have an impulse of 4°; at 20° of 6°; at 25° of 10°; and 26°, 27°, 28°, &c. we obtain only 8° of impulse, or less; it is manifest that the maximum of impulsion is 10°, and the point of pressure at which that impulse is to be obtained is 25°. Hence in this case the instrument should be pressed over the wrist until the mercury mounts to 25°, when the maximum of impulse is obtained, and at each beat of the pulse the mercury will ascend 10° in the tube. To avoid error the maximum of pressure must always be steadily kept up. The difficulty of maintaining a fixed pressure on the instrument is one of the objections which may be urged against its utility.

MM. Magendie and Serres in their report to the Academy of Sciences, observe, "if this contrivance were really competent to set before the eye the principal phenomena of the arterial circulation,—if it could supply the means of measuring, and of course of expressing precisely, by signs similar to those by which variations of temperature, for example, are denoted—then would the sphygmometer, as it is called, prove an important acquisition in medicine; for even the most practised physician, no matter how delicate his sense of touch may be, is far from possessing, in his investigations by the pulse, a degree of certainty like that which results from the use of the thermometer. But it requires at least as much practice to learn the proper use of this instrument, as it does to become acquainted with the ordinary indications of the pulse; nor are the results in any degree more exact. We have taken two persons, both familiar with the sphygmometer, and causing each successively to apply it to the radial artery of one and the same individual, we have requested them to write down separately what they ascertained by the instrument: the results, as stated by the parties, have been materially different, (*sensiblement divergents.*)

"The inventors of the sphygmometer, like most other inventors, promise and predict great things, as about to spring from their contrivance: they state, on



the faith of facts which your reporters have not been able to verify, that the indications afforded by this instrument will furnish certain signs by which medical men may detect the presence of several maladies whose diagnosis is at present obscure. While we are ready to admit that the sphygmometer is an ingenious thing, and not unworthy of trial in the hands of physicians, we can by no means partake of the sanguine hope of the authors: we moreover think, that if MM. Herisson and P. Garnier intend to reach the object at which they aim, they must, by some modification in the apparatus, render its use more simple, and free from the necessity of conjectural approximations.

"In conclusion, the reporters propose that the thanks of the Academy be given to MM. Herisson and Garnier, for their communication, and that those gentlemen be requested to simplify their instrument, if possible, so that the fidelity of its indications may no longer depend, as at present it does, on the cleverness and nice precautions of the observer."—Adopted.

61. *Miasmata*.—At a late meeting of the French Academy of Sciences, M. BOUSSINGAULT read a memoir on the possibility of verifying the presence of miasmata in the atmosphere. After mentioning the well-known fact that an insalubrious state of the air is caused by the combined action of heat and moisture on dead vegetable matter, as especially where there is a mixture of salt and fresh water, he goes on to say, that in all marshy countries, the hygienic precautions adopted by the inhabitants are the same; namely, not to expose themselves to the dew. It has also been observed that a very slight elevation above the source of the miasmata is sufficient to guard against its ill effects. Hence, it has been concluded, that this malaria is of vegetable origin, and is heavier than atmospheric air. The author next adverts to the experiments of Moscati to obtain this deleterious agent by condensing the moisture combined with the vitiated atmosphere, and adds, that in 1812 M. Delille made similar experiments in the marshes of Languedoc, and obtained an aqueous fluid which soon became putrid, contained flakes of an azotised substance, and forming a precipitate with the nitrate of silver, which quickly assumed a purple colour.

M. Boussingault, it appears from his memoir, has made numerous observations both in Europe and South America on the subject; the plan he adopted was to expose a small quantity of concentrated sulphuric acid to the influence of the miasmata during the night, and which in almost all cases demonstrated the presence of an organic matter in the air, which was deposited with the dew, and gave the acid a dark appearance; this method, however, was not calculated to afford any idea of the quantity of the deleterious agent; wherefore, M. Boussingault has endeavoured to ascertain this by decomposing the air, and noting the quantity of hydrogen developed. This he found to vary according to the relative unhealthiness of the seasons at which he made the experiments; thus in July 305 to 310 grammes of air gave 0.150 of water, equivalent to 0.005 of hydrogen, whilst later in the season, when the earth had become dried by the heat of the sun, only 0.012 of water representing 0.0013 hydrogen was obtained.

The author has also made a great number of experiments on the air, which show that at all times and at all places, it contains a small proportion of a hydrogenated principle, which he thinks is carburetted hydrogen.—*Gazette Médicale*, Aug. 16th, 1834.

62. *Baron Dupuytren*.—We learn from a correspondent from Paris, that M. DUPUYTREN has resigned his office of Surgeon to the Hôtel-Dieu, in consequence of his second attack of paralysis. He no longer goes out, the last visit he paid was to M. de Rothschild, who, ten years ago, paid him 100,000 francs for the restoration of a broken thigh. M. D. however, still continues to give advice at his own residence, and speaks with great coolness of his health, it is said, allowing himself not longer than three months more to live.—*Lond. Med. and Surg. Journ.*

AMERICAN INTELLIGENCE.

Note on the Anatomical Characters of Cholera. By W. E. HORNER, M. D. Professor of Anatomy in the University of Pennsylvania.—An editorial note having appeared in the last No. of this journal, p. 184, in regard to some observations by myself on the anatomical characters of Asiatic cholera to be hereafter published, it may be proper to state for the information of readers, who feel an interest in the matter, that my present engagements, and the time requisite to execute the contemplated engravings, have caused an unavoidable postponement. It may, however, not be amiss to remark even now, that the fundamental propositions of the paper in view are:—

First.—That the vascular derangements and phenomena of Asiatic cholera, as exhibited in the alimentary canal, are confined almost exclusively, if not entirely, to the venous system.

Second.—That in the earlier stages, a lining membrane of coagulating lymph exists in the small intestines at least, if not in the stomach and colon also, and that this lining resembles the membrane of croup.

Third.—That in addition to the enlarged and tumefied follicles described by M. Bouillaud,* and a similar enlargement of the intestinal papillæ described by M. Serres,† a copious vesicular eruption, entirely distinct from both, and easily distinguished from them, exists on the mucous membrane of the stomach, of the small intestines, and of the layer; and that this vesicular eruption, consisting of small spheres seldom more than the sixtieth part of an inch in diameter, is probably the essential morbid character of the disease, as is the case with the eruption of small-pox and of other affections.

Fourth.—That the follicular system of the alimentary canal is not the principal fountain of the sero-fibrinous discharges commonly called the cholera fluid, but that the latter comes from the capillaries of the venous system.

It is my intention, at the earliest period compatible with a suitable maturity of the paper, to have it ready for publication in this journal; in the meantime the minute injections and preparations, illustrative of the above propositions, being deposited in the Anatomical Cabinet of the University, may be seen by the members of the profession, and have already been exhibited to the medical class of the present session.

Case of severe Injury of the Head terminating Favourably. (Reported by CASPAR MORRIS, M. D.)—The following case of injury of the head, occurred in the year 1824, and having been recorded in the Case Book of the Pennsylvania Hospital, was met with incidentally by a gentleman (Dr. R. Coates) well competent to judge of its value, and it is now published at his suggestion.

I at that time held the situation of Resident Surgeon to the institution, and kept a daily record of the symptoms and treatment which was directed wholly by Dr. Joseph Parrish, the attending surgeon, to whose skill and attention the successful issue of the case is, (under Providence,) entirely owing.

Mr. L. is now a worthy citizen, the father of a respectable family, but unhappily subject to epileptic fits, which first attacked him about three years since, and for which he is now under my professional care. They at first occurred only in the night, and during sleep; but for some months past, after a longer interval of freedom than usual, they have seized him during the day, coming on

* *Traite du Cholera*, p. 256. Paris, 1832.

† *Idem*, p. 257.

without any premonition, at periods of about two weeks, and varying in duration and violence. He has a constant spasmodic cough, and his pupils are unnaturally dilated; his vision perfect, and his general health good. His mental faculties unimpaired.

The following notes were made at the time of the accident, and are published without abridgment or material alteration.

Benjamin L. *æt.* 16, son of a respectable bricklayer, of good habits and healthy constitution, was admitted into the Pennsylvania Hospital, December 28th, 1824. He had been riding on a heavy cart, loaded with rubbish, which was overturned, and his head was caught between the fore part of the cart and the pavement. He was immediately brought into the hospital, and though there was no point of depression of the skull, the stupor, cold skin, depressed pulse, and contracted pupils, indicated severe injury of the brain. The stupor increasing, without any reaction of the system, it was decided by Dr. Parrish, (Drs. T. T. Hewson, and J. Rhea Barton, in consultation,) to lay open the scalp freely, with the double view of ascertaining, if possible, the seat of injury, and of unloading the vessels of the encephalon by the hæmorrhage which would necessarily occur. A crucial incision was accordingly made through the scalp covering the point of junction of the coronal and sagittal sutures. The first incision was happily made in the direction of the sagittal sutures, and brought at once to notice, a separation of the frontal from the parietal bones, causing a fissure of at least one-third of an inch, which would have permitted the scalpal to have plunged deeply into the brain, had any force been used in making the incision over the track of the coronal sutures. The frontal bone could be freely moved, and considerable hæmorrhage occurred, not only from the scalp wound, but also welled out from the fissure, and with the blood there escaped several small portions of medullary matter. Immediately after the operation the stupor nearly disappeared, and the patient was able to reply correctly to questions addressed to him. In about four hours the symptoms of compression of the brain returned.

Evening. Pulse no longer feeble and oppressed; has some tension, 140 in the minute. A light dressing was applied to the wound, and he was directed to take six grains of nitrous powders every hour, and cold drinks.

December 29th.—Pulse tense and frequent; skin hot; stupor; bled him about eight ounces, and directed half an ounce of sulphate of magnesia every four hours until it should operate. *Evening.* Salts has operated freely; stupor still continues; bled him $\frac{3}{4}$ x.; sensibility increased by the bleeding; very great restlessness. Barley water.

30th. Much improved. Stupor diminished; pulse less frequent, and has lost its tension. *Evening.* Suppuration from the external wound, which is dressed with a soft poultice. No discharge from the fissure.

31st. Evidently better, though extremely restless. Pulse rather feeble; skin hot and dry; tongue white, and furred. No stupor; suppuration still continues; pupils natural, contracting freely on the admission of light. Sulphate of magnesia as before.

January 1st, 1825.—During the night was hot and feverish; very restless; skin dry; tongue furred; pulse 100, no tension; suppuration increasing: neutral mixture, and cold barley water. *Evening.* No stupor; has been less restless during the day. Has taken roasted apples and barley water.

2d. Was called to my patient about 3 A. M. and found him complaining of great pain in the head; pulse quick and feeble; extremities cold; great restlessness. Applied fresh dressings to the scalp wound, after which he fell asleep. At daylight I again visited him, and found he had had an evacuation from his bowels. His skin was moist; pulse 90; no stupor; furred tongue; continued without change throughout the day. *Evening.* Bowels not having been moved since early morning, I directed him a saline draught; and Dr. Parrish seeing him soon after, requested me to take six ounces of blood from the arm, which was done.

3d. Notwithstanding last night's depletion, his pulse is this morning full, tense, and slower than heretofore; complains of lancinating and severe pain in his temple, on which account he was again bled $\frac{3}{4}$ x. from which he experienced great relief; bowels once opened during the night; continued the cathartic. *Evening.* Bowels freely opened; no pain in head; free suppuration; healthy granulations in the scalp wound.

4th. Again complaining of lancinating pain; pulse slow and tense; wound healthy; neither stupor nor delirium.

5th. Entirely free from febrile symptoms; tongue slightly furred; wound granulating finely. I this morning observed the frontal bone yielding to the impulse of the brain; separated at each pulsation from the parietal. *Evening.* Purulent and bloody discharge from the fissure. At 11 P. M. very delirious, expressing great fear of being thrown from horses and killed. Bled him $\frac{3}{4}$ vj.

6th. No further delirium; passed a quiet night; pulse rather feeble; skin cool; tongue clean; wound looks perfectly healthy. Allowed a little rye mush and molasses. *Evening.* Had a slight disposition to delirium, which soon passed off.

7th. Pulse still rather feeble; skin cool; wound healthy. *Evening.* No tendency either to delirium or stupor; has taken a dose of sulphate magnesia, which operated well.

8th. Pulse and skin natural, and craving appetite; some roasted apples and water-gruel allowed him. *Evening.* A little disposed to fever, complaining of his head. To take a dose of Epsom salts, and to drink freely of a solution of sup. tart. potass. till his bowels are freely purged.

9th. Much relieved immediately upon the operation of the cathartic. This morning he has a natural pulse, and cool skin, and feels quite comfortable. About noon, had a slight return of febrile symptoms, which continued till near bed-time. Ordered neutral mixture.

10th. Still a disposition to fever; was purged during yesterday and last night by the salts taken on the evening of the 8th. Pulse some tension, but no strength; tongue clean; wound granulating finely.

11th. No unpleasant symptoms. To adhere to rigidly low diet, and to have his bowels kept free; it is now the fourteenth day since the accident, and hopes are entertained of his recovery.

12th. All the symptoms favourable.

18th. Constant gradual improvement since last note.

22d. Still doing well, ulcer rapidly contracting. Allowed vegetable soup.

On the 14th of February he was discharged from the house, and by the first of March was able to walk out of doors. There was complete cicatrization of the ulcer, except one small point, from which I extracted, about this time, a portion of bone, consisting of both tables of the cranium, two inches in length, and one inch and a half wide at the one end, gradually diminishing to a point at the other. It was necessary to make an opening for its removal. After the removal of this, the wound soon closed. Till the removal of this cause of irritation was effected, he was liable to occasional violent attacks of head-ache. As he began to recover, it was found he was affected with double vision, which continued to trouble him till about the first of April. He saw perfectly well with either eye alone; but when the object was presented simultaneously to both organs, it was represented distinctly to each, and there appeared to be wanting the necessary concord between the two organs. Deafness of the left ear continued for many months, and then disappeared.

Philadelphia, January 6th, 1834.

Case of Lepra Vulgaris, cured by rigid Abstinence. By ARISTIDE RODRIGUE, M. D.—As the successful treatment of the following case bears strongly on some of the doctrines of the present day, it cannot fail to be interesting to many of the profession, especially as the subject of it was a medical gentleman, who

was with difficulty persuaded to submit to the treatment instituted, he being firmly convinced that the disease was strictly a cuticular one, and only affected the stomach and system secondarily.

Dr. T. P. aged about seventy-one, full habit, and robust constitution, accustomed all his life to high living, has been for thirty years, except the two last, afflicted with *lepra vulgaris*. It first appeared after an imprudence at table; during the whole of this time, he was never more than two weeks exempt from the disease.

The following description, partly taken from Bateman, represents his case. It would commence with small, round, whitish, or brownish, and shining elevations of the skin, at first smooth, but within a day or two exhibiting thin white scales on their tops. These gradually, sometimes rapidly, dilating to one or two inches, still retaining their oval or circular form, covered with shining scales, and encircled by a dry red and slightly elevated border. Sometimes these scales would accumulate, and form thick prominent crusts; when the scales or crusts were removed, the skin appeared red and shining, perfectly smooth, and free from cuticular lines in the beginning, but marked in the more advanced stages of the disease, with long deep lines and reticulations not always coinciding with those of the adjoining surface.

It usually commenced on the extremities below the elbows and knees, and extended by the formation of new and distinct patches along the arms, thighs, breast, shoulders, back, and abdomen, and, in a few severe attacks, along the face and hands; twice the nails thickened at their roots, and fell off, growing again with thick elevated ridges; the itching was intolerable; considerable pain and soreness also attended. The stiffness from the incrustations would be such as to prevent him from moving without much pain and distress.

From the commencement of his disease, he had tried a great variety of medicines, baths, and ointments, which a number of physicians, both in this country and in Europe, had prescribed for him at different times. Little more was done than to mitigate the complaint, and a few weeks was the longest immunity he ever enjoyed. Supposing for many reasons his stomach to be closely connected with the affection of his skin, among which were the sour and fetid eructations, and sometimes pain on pressure, I communicated to him my views of his case, and obtained his consent to persevere in the most rigid abstinence for a length of time. For five weeks he took but six water crackers a day; his only drink cold water, and a little gum arabic to allay the craving of his stomach. Nothing but his sufferings for years could have induced him to persevere in the above treatment. At the end of two weeks evident impression was made on the disease, and there was no loss of strength. In three weeks the disease was still decreasing; and a little fatigue experienced at the end of the day. In four weeks, the disease was fast disappearing; a good deal of fatigue after usual exercise, and much loss of flesh. At the end of five weeks it had entirely disappeared. He was now very much reduced, but not debilitated; during the whole of this time he continued taking every morning a drachm of Epsom salts, and super. carb. soda, to which he had been accustomed, to keep his bowels regular. From that period to this, now more than two years, he has not had the slightest appearance of disease. His skin is perfectly clean, and natural; his health better than it has been since his first attack.

Sunbury, Dec. 24th, 1834.

Case of Malignant Cholera, in which Delivery at Term took place, during its Advanced or Collapsed Stage, and the patient recovered. By FRANCIS WEST, M. D.—September 28th, 1824. Hannah Carpenter, a mulatto female, æt. 20, of sound constitution and previous good health, came under my medical care as a patient of the Philadelphia Dispensary. She was living in a cellar in Water street, between Spruce and Pine streets, occupied by a large black family, and had been attacked some hours before I saw her with the symptoms

of malignant cholera, which was at the time prevailing with frightful severity in her immediate neighbourhood. I first visited her about noon of this day, (Sept. 28th,) I found her as follows:—She had been vomiting and purging since early in the morning, and was then discharging upwards and downwards very large quantities of a white, flocculent, rice-water fluid; she had most violent cramps in her arms and legs; her skin, especially of the extremities, was cold, damp, inelastic, and corrugated; her tongue and breath were perfectly cold; and her eyes, I remarked, as unusually deeply sunken in their orbits; her voice was strikingly characteristic, being husky, stridulous, and very low; her pulse was very weak, thready, and undulatory, and she was tormented by insatiable thirst and great restlessness. I was told, too, that she was daily expecting to be confined, and with her first child. A large sinapism was at once laid over her abdomen, and blisters were ordered for her legs, and a powder to be given her every hour composed as follows:—R. Calomel, gr. j.; Camphor, grs. xv.: Opium, gr. ss. M. Dry warmth was applied to her extremities, and Cayenne pepper infusion was directed as drink. Dr. Bond, who had occasion to be in the neighbourhood, kindly saw the patient with me at 4 o'clock, P. M. The sinapism had caused excessive pain, and she had retained the two powders which had been given to her. It was agreed to continue the treatment instituted. In the evening she was better, though the diarrhœa still continued, and her skin was excessively cold, and inactive, with a very feeble pulse, &c. The cramps still continued. During the next day, notwithstanding her condition was improved, she still remained very ill, and her situation very critical. The blisters had slightly drawn. About 6 o'clock in the afternoon I was sent for in great haste, and when I arrived the patient was on her knees on the floor, in strong labour, and with the child half protruded through the external parts. I had her placed upon the bed as soon as possible, and quickly afterwards she was delivered of a still-born male child of full size, which apparently had been dead for some days; the placenta was long in coming away; but there was very little hæmorrhage either before or after its escape. The patient was much exhausted.

On Tuesday morning I found her better in all respects, and there was very little discharge. I directed the blistered surface to be kept sore, and allowed her barley water for drink, which was generally retained. On Wednesday she felt so much better as to wish to sit up in bed. On Thursday, she continued to improve, and the next day she was sufficiently well to bear removal from the cellar, which the Board of Health had ordered to be vacated, and cleared as soon as she could possibly leave it. I did not see the patient for some time afterwards, when she called to say that she was perfectly well.

Philadelphia, December 10th, 1834.

On the Tapioca. By HENRY PERRINE, M. D. Consul of the United States at Campeachy. (Extract from a Letter to the Editor.)—Having looked at the second edition of the Dispensatory of the United States of America, it appears to me that I can furnish your pages with some articles of which the authors may avail themselves in preparing the third edition. I commence with tapioca, on account of the abundance of the plant which yields that fecula. According to honest Bernal Draz, the name of this peninsula is indicative of the prevalence of the *Jaslopha-Manihot*, and is derived from two native words, signifying Cassave-Land. The Maya Indians, who constitute four-fifths of the population, still call the root Yuca, the place of its growth Tal; and etymology has been unusually careful in merely changing Yucatal into Yucatan. When prepared for bread this pulp is denominated cassave, when the paste is passed through holes to granulate it for exportation, it has taken the name of tapioca. There are two species cultivated, called the *acid* and the *sweet*; but the difference is no more visible to the botanist than that of the sweet and sour orange trees. The natives, however, easily recognise the Yuca *agria* along side of the Yuca *dulce*; and in case of doubt do not hesitate to decide by tasting. The Yuca *dulce* is

brought to market like yams, and is eaten, boiled, or roasted like the common potatoe. The Yuca agria, besides supplying cassave cakes for the food of the healthy at home, and tapioca grains for the nourishment of the sick abroad, is also converted into pure starch, both for domestic consumption and foreign exportation. Humboldt concludes his account of the cassave, by quoting Aublett as saying very justly, "That the manioc, (another name,) is one of the finest and most useful productions of the American soil; and that with this plant alone, the inhabitants of the torrid zone could dispense with rice, and every sort of grain, as well as all the roots and fruits which serve as nourishment to the human species." He ought to have added, that it is preferable to all the rest in thriving in any soil or situation, without scarcely any cultivation, and in continuing to increase so long as it is left in the ground. "The roots may be extracted the first year, but if the cultivator chooses, he can wait another year, and collect a double crop, without the trouble of replanting or repulling." I hence earnestly wish to call the attention of our citizens to the great importance of introducing this plant into extensive cultivation in the most sandy, stony, and sterile districts of the southern states. *Its cultivation will be an equivalent to adding fertility to our most barren soils.* The nature of our institutions happily prevents our citizens from forcing the production of given plants in inferior climates, or on inferior soils. As we possess all the soils and climates of the world between the northern extremity of Michigan and the southern extremity of Florida, the naturally most productive soil and climate *may* be sought by the cultivator of a given plant, *or* the naturally most productive plant *must* be sought for a given climate and soil. Our southern planters, on poor soils, cannot compete with the south-western planters on rich soils, in raising plants which require a thick vegetable mould; but they can obtain an equally profitable crop by cultivating other plants which are entirely content with bare sandy or stony surfaces. Yucatan is proverbial for the stoniness, and consequent sterility for such plants as the rice, the tobacco, the cotton, and the sugar-cane; and yet it is equally proverbial for the productiveness of its Cassave *Jaslopha* and its *Henequen* Agave. However thickly the ground be covered with stones, if there be in every two or three feet square, two inches of earth to insert the cuttings of the Yuca stem, the labour is done, and the crop is secure. Each cutting should have at least three buds, and is inserted obliquely, leaving one germ in the air to shoot up into a stem, and the other two below the surface to spread along in the shape of creeping roots. Considering the non-fertility of the soil, and the non-cultivation of the plant, its produce is really astonishing. A reference to the recent statistical history of Cuba by Don Ramon de la Sagra, will show that the minimum estimate on a large scale, is at the rate of 1528 pounds of cassave flour to the acre. In Yucatan, the lowest computation of pure starch produced is at the rate of 2500 pounds the acre, and 4000 pounds is not admitted to be a very extraordinary crop. The cheapness of its production may be inferred from the fact, that pure Yuca starch is actually selling in Campeachy at three dollars and a half the hundred pounds, although its transportation on mules from the distant interior, amounts to half that sum! In pages 357-8 of Sagra's Cuba, is an extract of intelligence communicated by the Royal Patriotic Society of Puerto Principe. Under this head it is stated that the Yuca is there planted at three-fourths of a yard apart, which is equivalent to 9035 plants for an English acre; that a thousand hills are worth from sixteen to twenty-four dollars; and that a thousand square varas may hence yield forty dollars, which is equal to two hundred and twenty-five dollars, and eighty cents the acre! A very comfortable reward this, for sticking in cuttings and pulling out roots from a small surface of stony ground!

Climate of the Havana. By H. PERRINE, M.D.—The "Historia Economico-politica y Estadistica de la Isla de Cuba," (printed by the *Widows* of Arazoza y Soler, *Printeresses* of the Government, &c. Havana, 1831,) by Don Ramon de la Sagra, Director of the Botanical Garden, Professor of Agriculture, Botany, &c. &c. con-

tains at p. 37, a table of the medium monthly temperature of that city, from the beginning of 1825 to the end of 1829, inclusive; and as you may not have the book at hand in Philadelphia, I extract it, to aid the "momentous inquiry" commenced on p. 178, of your journal, for May, 1833, to select the best winter residence or resort for invalids seeking uniformity of temperature.

Centigrade Thermometer.

Months.	1825	1826	1827	1828	1829	Average.	Fahr.
January	- 21.42	- 21.70	- 21.80	- 24.30	- 21.70	- 22.18	- 71.94
February	- 22.85	- 25.02	- 24.30	- 25.50	- 22.70	- 24.07	- 75.32
March	- 33.72	- 22.06	- 24.47	- 24.20	- 23.00	- 25.49	- 77.88
April	- 24.15	- 25.42	- 25.90	- 25.50	- 24.60	- 25.11	- 77.19
May	- 25.06	- 24.70	- 26.90	- 26.30	- 25.20	- 25.63	- 78.13
June	- 28.12	- 28.50	- 27.79	- 27.60	- 26.20	- 27.64	- 81.75
July	- 28.22	- 27.00	- 28.12	- 27.54	- 27.00	- 27.57	- 81.62
August	- 25.35	- 27.86	- 27.20	- 28.47	- 26.50	- 27.07	- 80.72
September	28.52	- 27.88	- 26.80	- 26.00	- 26.00	- 27.04	- 80.67
October	- 27.35	- 26.58	- 26.00	- 26.50	- 25.00	- 26.28	- 79.30
November	23.54	- 23.02	- 24.70	- 25.50	- 23.00	- 23.95	- 75.21
December	21.62	- 20.03	- 23.03	- 23.50	- 24.00	- 22.43	- 72.37

By comparison with St. Augustine and Tampa Bay, Florida, in the form of your table, viz. mean temperature. Difference between mean temperature of coldest and warmest months, and mean temperature from October 1st to March 31st.

St. Augustine	- - -	72.23	- - -	27.34	- - -	65.55
Tampa Bay	- - -	72.37	- - -	22.02	- - -	66.41
Havana	- - -	77.67	- - -	9.81	- - -	75.32

The mean of five years is hence forty-one hundredths *less* than you quote it, and five one-hundredths *less* than that of Vera Cruz, whose mean difference of heat and cold you give as 10.80, or nearly one degree *more*. Being so much further, the variation should be proportionably *less*, did it not suffer by the northers from the adjacent Cordilleras. The force of these winds from the mountains is so much weakened by crossing the Mexican Sea to Campeche, that a wreck in this bay has been never known, and their temperature so elevated as to make the slight impression on the thermometer noted in my register for March, 1830, and the present February. A table for the whole year would hence present a uniformity of temperature superior to that of Havana, which is still more improved in the political capital Merida of the interior, a city, by the by, resembling Philadelphia in the regularity of its streets, and with a population estimated at from thirty to forty thousand inhabitants. But above all, on the east coast of Yucatan, the beatiful little Island of Conumel, should form a still more desirable winter asylum for wandering invalids, were it supplied with a suitable population. A temperature, however, between that of Tampa Bay and Havana is sufficiently salutary for the most delicate patients who will, during the first winter at least, be scarcely sensible of the changes which now to me convey the sensations of heat and cold. Indeed, at Key West you perceive that the medium temperature of the month of June is 82.11, or .36 *higher* than that of Havana.

Case of Partial Amnesia, in which the Memory for Proper names was lost. By DANIEL DRAKE, M. D.—On the 18th of January, 1834, a citizen of Louisville, Mr. C. Vansant, aged forty-five, a saddler by trade, called upon me for advice. During the war of 1812—14, he was in service, in the neighbourhood of Baltimore, and when engaged with the enemy, a musket ball passed along by his left ear and temple, so close as to graze the skin. It, in some degree, affected his senses, and gave him pain about the ear, both of which ceased after a few months.

He was subsequently afflicted with long attacks of rheumatism in his limbs, but in latter years has been exempt. About 20 months ago, 18 years after the accident, he was seized, anew, with pain in the temple and around the ear of the injured side, which has continued ever since, both night and day, but is generally worse at night. Its focus is the hollow of the temple, between the ear and the eyebrow. It abates at irregular times, but returns in shooting paroxysms; and is particularly excited by locomotion, speaking, pressure on that spot, and pulling the hair near it. Perfect rest he finds most favourable to ease. In the left ear he has a constant roaring, and the meatus externus is foul; the left eye is watery; he closes it a great deal; he sometimes has a pain in it: the sight of both is weak, and their motions unsteady. He has no tenderness of the spine.

About the first of the preceding September, (1833,) he had twelve "fits" (epileptic ?) between 7 and 11 o'clock at night. He frothed at the mouth, and was in a state of stupor between them—which continued for two days after they ceased. Since that time he has had two paroxysms. In regard to pain, he has been nearly in the same condition since the attack of epilepsy as before.

Every time I felt his pulse but one, it was so temperate as not to vary much from a natural condition. His bowels are generally regular. His complexion pallid, and his expression of countenance languid.

An uncommon, but not unprecedented mental effect has followed on the first attack of epilepsy. All his intellectual operations are somewhat enfeebled, and his associations now and then a little confused, but it is not these, of which I speak. *He has almost entirely lost the power of recollecting proper names, to whatever class of objects they may belong.* When he called on me, he could not tell the name of the city, (Louisville,) whence he came; nor that of the river, (Ohio,) nor the steam boat, (Michigan,) on which he had performed the voyage; nor that of the city, (Cincinnati,) where he then was; nor my name. To enable himself to find me, he had written my name on a piece of paper from which he read it when inquiring for my office. At first, (as on that visit he was alone, though his son afterwards accompanied him,) I supposed, for a moment, that he was deranged or idiotic; but soon discovered that his mind was otherwise nearly sound, for his narrative was quite intelligible and well connected, though whenever he came to a proper name, he stopped and had to substitute a description of the object, unless I myself have supplied it, from the context of his discourse. I had several interviews with him, and they all presented his infirmity under the same aspect, though once or twice he succeeded, in recalling the name which was desired. In my experiments with him, I did not ask him to recollect the name of this or that object or person, but drew him into such a conversation, as involved them, and observed, that whenever he came to them, he was perplexed, displayed a countenance of anxious effort at recollecting, and seemed impatient under his inability. To give other examples of it, I may state, that he could not recollect the name of his native city, (Baltimore,) nor that in the state in which it lies, though he could converse intelligibly of both. Nor could he recall the name of the state in which he resided—that of Shelbyville, where he had once lived, nor of any of the towns around Louisville, where he then lived. He had been attended more or less, by five physicians of Louisville, one of whom was his near neighbour, but could repeat the name of none of them, though he could relate what they had done for him. Being a mechanic, he had employed journeymen, but could remember the names of none, while he could recollect and distinctly inform me of their different qualifications. In one of my interviews, he could recall the names of all his children, after studying a little; but when it came to his own baptismal name and that of his wife, he could not proceed. When he was about to leave me, on this visit, he could not ask for his umbrella, because he was unable to recall the name, which was the only instance, in our different conversations, of a failure of memory in regard to common names. Perhaps, in his mind the idea was that of a proper more than a common noun, for at all times

he used the names of common nouns, such as town, river, doctor, medicine, state, boat, &c. without the least hesitation; nor did I observe a single instance of defect of recollection of any verb, adjective, or word belonging to other parts of speech, than proper nouns. Upon putting a slate and pencil into his hands, he was *sometimes* able to write down a proper name and then read it off; but in one case he wrote "Kentucky," instead of Louisville, for the city in which he resides. In his utterance he had some degree of hesitancy, and even stammering, which led me to suppose at first that the defect was not psychological, but muscular, and depended on a lesion of the facial nerve, which, as Mr. Bell thinks, regulates the function of articulation—the inability, however, to write down proper names, convinced me that it was a defect of memory, and not of pronunciation, though the latter was obviously somewhat impaired.

It is evident that this patient has neuralgia and epilepsy, apparently from the injury received on the left temple by the musket ball. Did that injury determine a slow morbid action of the dura mater or cranium of that part, going on to the production of exostosis, or some other organic change? Is the pain which infests that spot, of the nature of rheumatism in the periosteum? Without indulging in conjectures on these points, I shall direct the attention of the reader, to the fact, that the seat of his neuralgic pain is near to that part of the brain, which the phrenologist regards as the organ of language, situated immediately behind the globe of the eye. Without pledging ourselves to the system of organology, which has no necessary connexion with the psychological arrangement of Dr. Gall, we record this fact as deserving of preservation.—*Western Journ. of the Med. and Phys. Sciences*, Oct. 1834.

On the Employment of Nux Vomica and its Preparations in Dysentery.—The able editor of our cotemporary, the *N. A. Archives of Medical and Surgical Science* states, that having been particularly embarrassed and disappointed in the management of dysentery during the two last autumns in the Baltimore Infirmary, he has been within a short time induced to make trial of the nux vomica in some cases of this disease. "We have as yet, only had an opportunity of using it in a few instances," he observes, "and those not of the worst character, yet so difficult to manage, that some of them had previously resisted all our remedies. The cases selected, were those which were not attended with much febrile excitement, but which were characterized by frequent calls to stool, considerable griping and bearing down, and an inability to pass any thing but mucus, or that material streaked with blood. In some of the cases, the remedy, though certainly beneficial, was not competent alone to accomplish a cure; in others its good effects were so striking, as to inspire considerable confidence in its virtues, and to induce us to make this notice, and with the view of inciting others to give it a fair trial under similar circumstances. We do not wish to recommend it to the exclusion of other means, or to inspire a hope that it will be found capable of itself of curing the disease in a large number of cases. But from what we have seen of its effects, we feel assured, that it will be found a useful adjuvant, and that in some cases at least, it will afford relief when other remedies fail."

"We commenced at first by administering the nux vomica in powder, in doses of seven grains three times a day, as recommended by Vaux of Ipswich, England. In one individual to whom the article was administered in this form, the good effects were prompt. The griping, tenesmus, and frequent calls to stool were speedily checked; the discharges became natural, and the patient, who had suffered much, and had failed to obtain relief from the treatment previously prescribed, expressed himself delighted with the remedy. It was also beneficial in other cases, as were the alcoholic extract of Pelletier, administered in doses of two grains, three times a day, and the strychnia, given in the form of an acetate, in doses of one-twelfth to one-sixth of a grain, formed by dissolving the strychnia in acetic acid. Our comparative trials of the different preparations of the article have as yet been too limited, to enable us to

decide which deserves the preference; but we are inclined to prefer the powder, and next to that the extract. It will perhaps be beneficial to combine with whatever form is employed, a small quantity of opium or some of its preparations."

The good effects of *nux vomica* in several of the affections of the mucous membrane of the digestive organs, have long been known, but it is highly probable, that the remedy has not been as generally employed as it deserves. Hagström, a Swedish physician, was, we believe, the first who recommended it in dysentery, and his testimony in its favour was of the most flattering character. The celebrated Hufeland* states, that he derived great benefit from it in the treatment of epidemic dysentery; and Thomann† remarks, that he has seen it effectual in allaying the tormina, and abating the inclination to go to stool. Richter‡ observes, in reference to the efficacy of this remedy in dysentery, that the extract, like opium, tends directly to allay the irritation of the alimentary canal, and subjoins, that combined with the article just mentioned, it proves beneficial where opium alone fails to do so. The following is the form in which he administers it:—*R.* Extract. nucis vomic. ℥ss; Mucillag. gum mimos. ℥i; Aqua font, ℥vi; Syrup. althæi, ℥i. *M. S.* Two table-spoonfuls every two hours.

"By Most,§ a recent writer, this article is especially recommended in what he denominates *pituitous dysentery*, and he remarks, that when the disease is protracted, the article may be administered in the following form for several days in succession, with great advantage:—*R.* Nuc. vomic. ℥i; Infunde in aqua ferv. qs. Digere per ½ hor. ut reman. ℥vi; Col. adde Tinct. Opii Simp. ℥ss;—*M. S.* A table-spoonful every two hours."

"We find the following very flattering account of the efficacy of *nux vomica* in dysentery, in Armstrong's lectures,|| recently published. 'A friend of mine, Mr. George Vaux, of Ipswich, has tried a remedy for sixteen years, in about two hundred cases, (*i. e. in dysentery*,) and the result has been so successful, and so remarkably uniform, that I feel it my duty to mention the treatment here. This gentleman gives in dysentery, or inflammation of the mucous membrane about the colon, seven grains of *nux vomica* thrice daily. It neither purges or constipates, but removes the inflammation, and healthy evacuations follow. Mr. Vaux, who resides in London, bears similar testimony to the value of the remedy, and I strongly recommend it to your notice. I shall certainly try it in the next case I meet with. It seems to operate as a sort of specific.'

"By Mr. Frisch, a German physician of celebrity, the remedy is highly recommended. He remarks, that in those forms of diarrhœa, dependent upon a subacute inflammation of the mucous membrane of the intestines, which are attended with frequent discharges of tenacious mucus, and much griping and tenesmus, no remedy is so effectual as *nux vomica*.¶ Its efficacy in diarrhœa has also been testified by others. In a case of chronic diarrhœa, in an individual of a nervous temperament, professor Récamier administered the alcoholic extract of *nux vomica*, in doses of one-eighth of a grain, with complete success after various remedies had been resorted to ineffectually."**

"From these remarks it will be seen, that the remedy is at least deserving further trials. To expect it to perform the part of a specific would be an absurdity, nor would it be reasonable to expect much from it in the acute stage of dysentery. But after suitable depletion, and especially, when the disease is verging upon a chronic form, we doubt not it will be found useful. Our own experience with it, as yet, has been limited; but we propose to give it a fair trial, and in the mean time, as truth is our only object, we shall be glad if these ob-

* Journal der Praktisch. Heilkunde. Bde. i. stueke 1.

† Summa. Observat. Med. tom. iii.

‡ Die specielle Therapie. p. 133, Bde. ii. Berlin, 1821.

§ Encyklopädie der gesammten medicinischen und chirurgischen Praxis. Thiel ii. p. 317. Leipzig, 1833.

|| Lectures on the Morbid Anatomy, Nature and Treatment of Acute and Chronic Diseases, &c. By the late John Armstrong, M. D. &c. Edited by Joseph Rix, M. D. p. 409. Lond. 1834.

¶ Thompson's Materia Medica and Therapeutics, vol. I.

** Richard, Elemens d'Histoire Naturelle Medicale, tome ii. p. 184.

servations should serve to induce some of our professional brethren to test its efficacy. Should any of them do so, we should be pleased to receive the results of their experience."

Singular condition of the Knee Joint in a New-born Infant.—Dr. D. H. BARD, of Troy, Vermont, has communicated to our cotemporary, the *Boston Medical and Surgical Journal*, (26th November, 1834,) a remarkable case, in a new-born infant, in which "the leg turned up forward on the thigh, the bottom of the foot presenting directly forward, the toes turned toward the face of the child, and the heel from it." The attendants were not aware of any injury being sustained during the delivery, which had been natural, and accomplished by the unaided efforts of nature. Dr. B. found that on drawing the leg gradually and gently towards himself, it immediately assumed its natural position and shape; but when left to itself, it began directly to move upward; the knee flattened upon the top; swelled out a little beneath, but none on either side. When the leg had arrived at about a right angle with the thigh, its motion became more rapid, till it was checked by the clothes, or the integuments of the lower part of the thigh and upper part of the leg. It was easily drawn back; and when the leg had arrived at nearly a right angle with the thigh, the amount of force required to carry on the motion was still less, and continued to diminish until the limb became straight. Flexion of the leg upon the thigh was performed with the usual ease. No motion of the limb appeared to give the child pain. The limb was confined in a proper position by bandages, for a short time, and the leg did not afterwards show any inclination to return to its unnatural situation. The child did well, and when it began to use its legs, no difference could be discovered between them.

Urea, Benzoic Acid, and Xanthic Oxide, in Diabetic Urine. By CHARLES T. JACKSON, M. D.—April 6th, 1834. I received from Dr. M. S. Perry a wine bottle of diabetic urine for examination; and since my analysis he has furnished me with the following account of the case. It is to be regretted that Dr. Perry could not obtain permission to make an examination of the body of the patient after death, as every fact connected with this obscure, and generally fatal disease, is of the greatest value to the profession and the community.

"Perez Hamblin, aged twenty-five, fisherman. I was called to him the 30th of March, 1834; found him 'in articulo mortis.' The imperfect history which I obtained of his case from his wife, is as follows. Three years since, he injured his back by attempting to push a boat from the beach into the water. From this time he complained of acute pain in the region of the kidney. He, however, continued to work for three months without taking medicine. At this time his urine, which had been small in quantity, and of a high colour, began to increase, and become of a straw colour. He now commenced taking Thompson's medicine, under the direction of one of the purchasers of his patent. He grew worse from that time till his death. The pain in his back did not increase, but his urine became more and more abundant, amounting some days to two or three gallons; his appetite for food and drink was voracious; he could not controul it; his flesh wasted, and his strength was diminished. Towards the last of his sickness his tongue was red and dry; skin dry; hands and feet cold; and great difficulty of breathing, but little cough."

With respect to the existence of urea in diabetic urine, I would in the first place remark, that Professor Kane, of Dublin, is the first and only person in Europe who has discovered its presence in conjunction with saccharine matter, and it appears from his analysis, that sugar masks the urea so completely, as to render it extremely difficult to detect and separate. The process of fermentation was, in the following essay, taken advantage of, to convert the sugar into alcohol, and thus free the analysis entirely from this source of embarrassment. Benzoic acid exists in the urine of cows and other herbivorous animals. Scheele states that he had discovered it in the urine of

children, but this has been doubted by Berzelius. Proust observes that it may be separated from urine in which it exists, either by evaporation and crystallization, or by distillation.

The bottle of urine furnished me by Dr. Perry, was closely corked and set aside in the laboratory, until I should have leisure to examine it. Other engagements precluded the possibility of making an analysis of it for three weeks, at the end of which time, the bottle was taken, and with the intention of removing a portion for analysis, the cork was started, when it was driven forcibly out by expansion of gas, and rapid effervescence of the urine caused a considerable quantity to escape from the bottle.

The gas being examined by lime water, was found to be carbonic acid. The urine had lost all sweetness to taste, and when a portion was evaporated, no sugar could be obtained. Alcohol was present, as was proved by its odour, and by distillation.

Hence, it appears, that the urine had undergone vinous fermentation; the sugar having changed into alcohol by this process. I thought this a favourable opportunity to ascertain if urea existed in this urine, as the sugar had disappeared by fermentation, and the alcohol produced, had preserved the animal principles from decomposition. For this purpose, I took an ounce of the urine and evaporated it to the consistence of syrup, and then added diluted nitric acid equal in bulk to the syrup. The greater part of the liquid, after a few hours rest, was found converted into crystals of acidulous nitrate of urea, which were separated by the filter. The fluid which passed the filter, was placed aside in the closet to evaporate spontaneously, and being examined the next day, was found to possess the aromatic odour of *benzoic acid*. In attempting to distil off the fluid in hopes of obtaining the acid the whole was rapidly decomposed by the nitric acid with disengagement of nitrogen and nitrous gas. All the urine now remaining was thrown on the filter to separate the sedimentary matter which it abundantly contained. This sediment was of a grayish colour, and when dry became a compact mass. It is difficultly soluble, requiring 10,000 parts of water for solution. It is more soluble in hot water than in cold, and the water when cooling deposits this matter in powder. It reddens litmus paper feebly. When nitric acid is poured upon the substance in powder, it produces a deep lemon yellow colour, and the sediment is dissolved. When this solution is neutralized by carbonate of soda, a precipitate takes place of a yellow colour. From the above characters, we recognise this substance as *xanthic oxide*, a substance exceedingly rare, having been only once found as a calculus by Dr. Marcet, and never before in diabetic urine. The chemical characters and combinations of this substance are but little known, as its rare occurrence has prevented a sufficient quantity from falling into the hands of any chemist. The filtered urine, when evaporated and treated with nitric acid, gave signs of the presence of xanthic oxide. I had several years since, suspected the presence of benzoic acid in diabetic urine, having perceived the odour of it while analyzing the urine of a diabetic patient, in the Massachusetts General Hospital in 1828. The present case gives countenance to the supposition, that it is of frequent occurrence in this disease, and should always be sought for in analysis of the urine. That the case above related, is one of true diabetes mellitus there can be no doubt, from the phenomena which took place in the urine after it was sent me. I have the additional testimony of Dr. Perry, that the urine had a sweet taste, especially when evaporated to the consistence of syrup.—*Medical Magazine*, Aug. 15th, 1834.

Intussusception with Stercoraceous Vomiting, successfully treated by Inflation.
By J. Woon, M. D.—Mr. G. aged thirty-five, a type-founder, of nervous temperament, was suddenly seized on the night of September 17th, with violent pains in the umbilical region: has before suffered two slight attacks of rachialgia. A medical gentleman in the neighbourhood saw him, and prescribed purgatives and hot fomentations. My attendance was requested the next night. He had

obtained no relief from the remedies administered during the day; stomach had rejected them. No defecation for three days; frequent retching; little intermission from pain; pulse small and regular. Superficial examination of the abdomen detected no peculiarity. An acquaintance with his previous attacks led to the presumption that the present was painter's colic: he was, therefore, directed to take a pill containing two grains of opium, and one drop of croton oil every two hours till relieved; and to have an enema every four hours, and bags of hot sand to the abdomen.

Sept. 19th. Has taken all the pills: less pain through night, but since day-break paroxysms have returned with greater force and frequency, accompanied by violent tormina and tenesmus; dry retching, especially after taking drink; hiccup; slight but general tenderness of abdomen; pulse irregular, irritated; no fecal evacuation, but discharged in the course of the day a little bloody mucus, and vomited, towards night, a large quantity of green bile mixed with feculent matter. After a careful examination, the precise point of obstruction was ascertained. At first, only an unusual fullness and firmness in right iliac region could be discovered: but the hand lying upon the spot, a paroxysm of pain occurred and an elongated tumour was felt to rise with an erectile motion: immediately there followed a gurgling, rumbling noise, and a rush of fluid downwards against the point of obstruction. After two or three surges against the tumour, the fluid receded towards the stomach; but again returned with renewed violence, until the spasm subsiding, it passed upwards, the bowels taking on an inverted action. The treatment adopted was copious bleeding, the administration of purgatives, as calomel, infusion of senna, castor oil, enemata of tobacco infusion, hot anodyne fomentations, and at night large doses of opium.

20th. Aggravation of all the symptoms. In the afternoon Dr. Morrill saw him, and after a careful examination of the case and an acquaintance with the treatment pursued, he agreed in opinion that there were no grounds for hope. As a last resource, however, he proposed inflation of the bowels with atmospheric air.* Placing the patient on his right side, the pipe of a pair of bellows was introduced into the rectum, and inflation cautiously begun. This succeeded but partially, owing to the imperfection of the instrument; yet to our surprise, he proclaimed himself much easier, and was irresistibly driven to the commode, where he passed a large quantity of air and a gill of very fetid, bloody water. A more perfect pair of bellows having been obtained, the tube was again inserted, and inflation employed till the abdomen became tense. He had no recurrence of violent pain after first inflation. Directions were given him to remain quiet in bed, and resist the disposition to evacuate the bowels; to take one drop of croton oil every two hours, and at the end of four hours an enema of mucilaginous fluid. He was visited six hours afterwards; had had no return of pain since inflation: within last hour two copious defections.

21st. Had seven defections since last visit; quiet sleep for three hours; somewhat feverish, thirsty; countenance anxious; pulse 125, small; tongue red, dry in centre. Full vesication from blister applied yesterday. Pretty severe enteritis followed, which yielded to the usual remedies in the course of fourteen days.

The result of this case was extremely gratifying. With regard to the treatment finally employed, we had no very sanguine anticipations of success; yet it must be admitted, that there is more philosophy in it than in many other plans adopted to lessen the ills of life. Of the numerous enemata administered in the forty-eight hours preceding the inflation, but a small quantity was retained, and that but momentarily. The use of them was persisted in with the hope of effecting mechanically the dilatation of the gut. In similar cases, the enemata cannot be thrown up to any amount: what is injected immediately returns. The effect is totally different when air is used. Its levity, its freedom from all irritating qualities, its elasticity and expansibility, give it a de-

* Vide Med. Mag. Vol II. page 530.

cided preference over the enemeta. The nature of the difficulty, also warrants the view of its utility. The tendency of the peristaltic motion and of the ingesta, is from above, downwards; most cases of intussusception, therefore, are *progressive*, few *retrograde*. If then, we can dilate the stricture, the invaginated portion will escape from below upwards, and thus will be restored to its original situation. If the above explanation be correct, what remedy can compete with inflation? It certainly merits a trial, and is earnestly recommended to the consideration of the profession.—*Boston Medical and Surgical Journal and Med. Mag.* Dec. 15th, 1834.

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On the Plant which furnishes the Jalap. By R. E. GRIFFITH, M. D.—The first author who speaks of jalap in a definite manner, is Caspar Bauhin, in 1609, (*Pinax*. 298. *Prod. Theat. bot.* 135,) under the name of *Bryonia mechoacana nigricans*. But succeeding botanists appear to have been in a state of great uncertainty as to the plant furnishing this root. Ray, (*Hist. Plant.* 724,) refers it to the genus *convolvulus* under the name of *C. Americanus jalapium dictus*; in this he was followed by Plukenet, (*Phytog. Tab.* f. 1.)

Some time afterwards, Tournefort, misled by Plumier and Lignon, who stated that they had seen the plant in America, attributed the jalap to a species of *Mirabilis*, (*Inst. Rei. Herb.* 130,) and this erroneous idea was also adopted by Lemery in the second edition of his great work on drugs, where he figures a *mirabilis* as the true jalap plant.

Notwithstanding the weight of an opinion from such a source, Miller, (*Gard. Dict.*) and Sloane, (*Hist. Jamaica*,) again referred the jalap to *convolvulus*, and their statement was confirmed by Houston, who brought the plant from South America and showed it to Jussieu, who decided that it belonged to that genus.

Linnæus, however, in the first edition of his *materia medica* still adhered to the opinion of Tournefort, and attributes it to the *Mirabilis longiflora*. Some years afterwards he recognised his error and placed it in the genus *convolvulus*, with the following specific characters:

C. jalapa, foliis difformibus cordatis, angulatis, oblongis, lanceolatisque, pedunculis unifloris, seminibus lanigeris.

But the subject still remained in uncertainty. Murray, (*App. Med.* i. 216,) on the authority of Thierry de Menonville, started the idea that there might be more than one species of *convolvulus*, furnishing the official jalap. The latter writer stated that he found a species near Vera Cruz, which he affirmed to be the true jalap, and the roots of which weighed twenty-five pounds. He drew up a description of this plant which he transmitted to Jussieu and Desfontaines, this latter botanist, on comparing the description of De Menonville with that of the *Ipomœa macrorrhiza* of Michaux, specimens of which were growing in the Garden of Plants at Paris, was convinced that they were identical; hence when Michaux discovered the latter in Florida and sent the seeds to Paris, Desfontaines published a memoir on jalap, (*Ann. du Mus.* ii. 220,) in which he ascribed this drug to the *I. microrrhiza*, and gave the *C. jalapa* of all preceding botanists as synonymous. The accuracy of this was first doubted by Mr. Nuttall, (*Gen. N. Am. Pl.* i. 123,) on the authority of Dr. Baldwin, who from actual experiment found that the *I. macrorrhiza* was inert, and better fitted for an esculent than for a medicine.

In 1827, Dr. Coxe having received roots of the true jalap from South America, became convinced that the descriptions of former authors were erroneous, and in 1830 published a full account of it in the *American Journal of Medical Sciences*. In 1829 also, Mr. Ledanois sent a short description of the same plant to Mr. Chevallier at Paris, thus confirming the discovery of Dr. Coxe.

The description given by Mr. Ledanois differs in a few unimportant particulars from that by Dr. Coxe, but it is evident that they both were drawn up from the same species,

Thus Mr. Ledanois states that the leaves are smooth, without prominent veins,

whereas in the plant of Dr. Coxe, the nervures on the under side of the leaf are strongly marked, &c. &c.

Mr. Pelletan proposes to call this species *Convolvulus officinalis*, and we are of opinion that his suggestion is a good one on many accounts.

The name *C. jalapa*, it is evident, leads to much confusion and uncertainty, from its having been applied to many totally distinct plants. Thus the *C. jalapa* of Linnæus, the description of which approaches nearest to the present plant, may or may not be identical with it, but as it has been quoted as a synonyme for other and confessedly different species, it would be better to consider it as not yet identified by more modern botanists.

The *C. jalapa* of Woodville, judging from his representation of it, differs in many essential particulars, and as is justly observed by Mr. Nuttall, resembles one of the varieties of *C. panduratus*. Neither is it the *C. jalapa*, *Bot. Mag. Hort. Kew.* i. 211. *Willd.* i. 860, &c., as these evidently refer to the *I. macrorhiza* of Michaux, figured as above mentioned by Desfontaines in the *Ann. du Mus.*

As to the point in dispute, whether the plant in question is an *Ipomœa* or a *Convolvulus*, it is a matter of little importance. Botanists are by no means in unison as to what are the distinctive characters of each, and many have rejected the former entirely, or considered it as merely entitled to the rank of a subgenus.

Tournefort founds his differential character on the form of the Corolla, whilst Linnæus considers this as of a secondary importance, and assumes the form of the stigma as the distinguishing mark, in which he is followed by Jussieu and others. If this be adopted as a guide, instead of dividing *Convolvulus* into two genera only, we must erect a new genus for every different form of this part, and thus split up an otherwise natural group into a dozen or more sections. If a division be adopted, that proposed by Kunth of *Staminibus exsertis, inæqualibus*, and *Staminibus inclusis*, is the best, as it brings together those species which are most closely allied in other particulars; but even this plan offers many difficulties and anomalies.

Before concluding this notice, it should be mentioned that Mr. Nuttall stated to us, that he still entertained doubts whether the plant described by Dr. Coxe was the true jalap, as he had found the tubers grown at Cambridge, Mass., were devoid of active properties. As this is not the case with those produced in this city, the objection is scarcely valid, but at the same time, the fact is highly interesting in itself, as showing the effect of climate or cultivation in modifying the properties of vegetables.—*Journ. of Phil. Coll. of Pharmacy, July, 1834.*

Dartmouth College.—The number of medical students in this institution in October last, was 106. The following are the requisites for graduation:—

"Each candidate for the degree of M. D. must be twenty-one years of age; must possess a good moral character, an acquaintance with *natural* and *experimental philosophy*, and a knowledge of the *principles and construction of the Latin language*; must have studied medicine three full years with some regular practitioner; must have attended two courses of public lectures in all the branches of the profession, at a regularly organized medical institution, one of which courses shall have been attended at this institution; must have passed a successful private examination before the medical faculty, and have read and defended in their presence an acceptable dissertation on some medical subject."

Medical Institution of Geneva College, New York.—The trustees of Geneva College have established a medical department, and appointed the following professors.

Dr. EDWARD CUTBUSH,	Professor of Chemistry.
Dr. WILLARD PARKER,	" <i>Anatomy and Physiology.</i>
Dr. J. G. MORGAN,	" <i>Surgery.</i>
Dr. C. B. COVENTRY,	" <i>Obstetrics and Materia Medica.</i>
Dr. A. COLEMAN,	" <i>Medical Jurisprudence and Botany.</i>

The lecture term will commence on the second Tuesday of February, and will continue sixteen weeks.

"The following requisitions will entitle a candidate to the degree of Doctor of Medicine. He shall have attained the age of twenty-one years, and be of good moral character; he must have attended two full courses of lectures, one of which must have been in this institution, and have studied three years under some respectable practitioner of medicine, and have an *adequate knowledge of the Latin language*, and of *natural philosophy*. He must likewise write and present to the dean of the faculty a thesis on some medical subject, to be approved, and must pass a satisfactory examination by the medical faculty in the presence of the curators of this institution."

Berkshire Medical Institution.—It appears from the catalogue published in November last, that the number of students was 87, of whom 45 were seniors, and 42 juniors.

Transylvania University.—The number of the medical class during the session 1834-5, was 255.

Sphygmometer.—Dr. J. G. NANCREDE, of this city, has translated the memoir of Dr. Herisson, the inventor of this instrument. A description of it, with a figure, and the report of the institute in relation to it, will be found at p. 543, of this No.

Sarlandière's Anatomy.—A complete set of anatomical plates, embracing representations of the bones, ligaments, muscles, organs of sense, viscera, organs of secretion and excretion, veins, nerves, lymphatics, and nervous system, with references; and all for six dollars! When we add further, that the plates are exceedingly well executed, we are sure that every student will hasten to secure a copy of the work. It is published by Messrs. J. & E. Bisbee, of New York, and is to be had of Messrs. Carey & Hart, Philadelphia.

Professor Caldwell's Thoughts on Physical Education.—It was only accidentally, and within a few days, that we met with this interesting discourse delivered before a convention of Teachers in Lexington, Kentucky. The subject of it is one of paramount importance and it is ably treated by the author.

This discourse has also the somewhat rare merit, for an American Medical work, of a classical style. We shall notice it more particularly hereafter.

Marshall Hall's Principles of Diagnosis.—The second edition of this valuable work, entirely re-written, has been published by D. Appleton and Co. New York. We shall notice it in our next number.

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